NOTICE:

"BEST AVAILABLE COPY"

PORTIONS OF THE FOLLOWING DOCUMENT ARE ILLEGIBLE

The Administrative Record Staff

881 Hillside Restoration Phase 1A Documentation

ADMIN RECORD

Best Available Copy

**REVIEWED FOR CLASSIFICATION/UCNI
B. L. MILLER (4)

6-12-90

D. Ladders shall be electrically nonconductr and be heavy duty construction type. Litension ladders all be equipped with approved feet (anti-skid de 1 -s) and shall be extended only to the minufacturers design limit, these ladders shall be secured both top and botic and shall be properly barricaded to divert vehicular are adestrian traffic from the area if necessary

NOTE: If a metal tadder is to be used for remanical construction, specific procedures and writte - rmission must

E. METAL LADDER MAY BY USE ON MECH. & STRUCTURE WOLK ONLY TELL
E. ANY CHENT SPECIFICATIONS
E. ANY CHENTS OF COLORS

F. Any opening or edge on an elevated surface all be proper-F. ly covered or barricaded to prevent talling tripping or similar hazard.

It is the intent of this Accident Prevention Friposal to implement, indoctrinate, and enforce the provisions of this Plan to greatly reduce lost time due to accidents, delays on to unrecognized hazards, and to secure the welfare and productivity of the work force through continuous familiarity with profit safety procedures. The implementation of this Plan will be communicated in the construction of this project, to insure the highest productivity and successful completion or this work.

CCNTRAC.	111side BUILDING: 891	;/\	struction Incloare:	HAZARDOUS MATERIALS	Fuel Oils, Gasoline Solvents, paints Adhesives Sodium hypocloric	1	•
TOR SAFFTY ANALYCIS	Remedial area		PREPARED BY: Jose Garcia Construction InchDATE:	TOOLS AND EQUIPMENT REQUIRED	All shoring materials, i.e., lumbers, braces, stringers, heavy equipment, ladders, concrete saw, soil compactor, barricades, flagging, steel plating, lights, hand digging tools, general hand tools, and other tools or equipment pertaining to excavating or trenching as required for compliance with the specifications and OSHA requirements.		
BEWIEGEN BV	ii.	A Martines	I&SSERT ALL DATE:	SAFETY EQUIPMENT REQUIRED	Hard hats Eye Protection Safety Shoes or protectors Electrical safety gear		

A 1

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PAGE 02 OF 05	Safety Measures	1. Construction work is controlled by weekly work permit, CM & I Inspectors, I & SSE Safety Engineer and HS & E Area Engineer. Good and gafe housekeeping will be practiced.	2.1 Excavation permit re- quired per HS & E 6.01	2.2 Shoring must comply per OSHA CTR 1926. Shoring must be inspected and approved by CM & I, I & SSE and/or Area Engineer prior to use.	protected or barricaded at all times, using physical barriers, covers, fencing, planking, railing warning/caution signs and lights.	
ă	HAZARD	Numerous (House Kagping)	2.1 Authorized dig- ging-hitting live underground utilities or controlled areas.	2.2 Excavations not properly shored, sloped or using trench boxes, endangering workers in trench.	2.3 Improperly protected or barricaded excavation may allow personnel or motor vehicles to fall or drive into excavation.	
	WORK ACTIVITY	1. All rob activity	2. Excavation and earth backfill			
	INSPECTED & RELEASED BY:					
	INSPECT. BY:					
	DOORT TOORT (X)	AND THE SECOND SECTION OF THE SECOND SECOND SECTION OF THE SECOND		aleksi kur alkaran kalenda kalenda kana kana kana kana kana kana kana k	· · · · · · · · · · · · · · · · · · ·	4 - 34 - 34 - 34 - 44 - 44 - 44 - 44 -

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PAGE 03 OF 05	SAFETY MEASURES		2.4 Ladders will be placed to limit travel distance to a maximum of 25 feet. Ladders to extend at least 3 feet above surface of ground. Laddershall be secured, by staken and tying off.	2.5 CM & I will inspect site excavations daily and may have to increase the inspection frequency and the protection against slides and cave-ins.	2.6 Spoils will be placed a minumum of 4 feet from the there one side of the excavation lip.			
e e	HAZARD		2.4 Workers not provided with safe acess/egress to excavations over 4 feet deep.	2.5 Weather conditions e.g., storms or other hazard increasing occurance of slides or cave-ins.	2.6 Spoil placed too close to excavation may cause slides or cave-ins.			
	WORK ACITVITY		-					
1	INSPECTED & RELEASED BY:	34.	₹ [©] 7.					
	INSPECT. BY:							
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PAGE 04 OF C	SAFETY MEASURES	Striking known 2.7 Excavation shall be performed with extreme caution when within 3 feet (horizontal & vertical) of any known obstruction. Exploration neaffectivity definition shall be performed any known obstruction. Exploration neaffectivity definitions shall be performed as observer near the excavation to visually verify any unusual changes in the excavation material such as type of soil, concrete, locator tape, etc. Proper Engineering 2.10 Excavations exceeding rain the excavation such as type of soil, concrete, locator tape, etc. Proper Engineering 2.10 Excavations exceeding and shorting method will be designed by a competent engineer.	
P.	HAZARD	2.7 Striking known obstruction. 2.9 Excavating with heavy equipment. 2.10 Proper Engineerin of Shoring Methods.— Exeeding 20 feet.	
	WORK ACTIVITY		
	INSPECTED & RELEASED BY:	or the second s	
	INSPECT. BY:		
	EXXI EXXIVE (X)		

SAFETY MEASURES	3. Stop work and contact CM & I Coordinator.	4. Personnel remain clear of operating equipment. Safety equipment must be installed and operational.	5. Personnel are not allowed to work under these items until prperly braced and supported.	6. Protective safety gear, the dividing of the dividing of the condition o	,
HAZARD	3. Unusual substances may be hazardous to personnel or the environment.	4. High potential for personnel injury.	5. Unsupported or weakened structural members or overhanging structures.	6. Electrical shock	1
WORK ACTIVITY	3. Encountering unusual substances, odors, liquids and materials.	4. Working near heavy equipment.	5. Overhead loads	6. Power line installation and removal.	1
INSPECTED & RELEASED BY:	R 40				
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TXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	l			: .	•

881 Hillside Restoration Phase 1A

Documentation

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"REVIEWED By	B	L	MILL	ER	(4)	
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Wind Speed Shutdown Criteria



INTEROFFICE CORRESPONDENCE

DATE June 12, 1990 881SHUT WSB

TO

T C Greengard, Env Restoration

FROM

W S Busby, EMAD, Air Programs, Bldg T130B, x5603

SUBJECT SHUTDOWN CRITERIA FOR 881 HILLSIDE PROJECT

The 881 Hillside Project shutdown criteria are as follows

CONSTRUCTION (Earth moving or other dust generating activities)

- Wind speeds over 15 mph for 2 consecutive 15 minute periods (beacon will come on)
- Soil moisture less that 15%
- Dust suspension greater than 0.6 mg/m³

DRILLING

- Wind Speeds over 35 mph
- Soil moisture less than 15%
- Dust suspension greater than 0 6 mg/m³

These criteria will be in effect with the concurrence of the project manager

ger/Signature/D

LEGE ROCKY FLATS

INTEROFFICE CORRESPONDENCE

DATE

May 15, 1990

WSB-10-90

TO

W M. Bruninga, Facilities Engineering, Bldg 130

FROM

W. S. Busby, Air Programs Group, EMA, Bldg T130B, x5603

SUBJECT

WIND LIMITS FOR CONSTRUCTION ACTIVITIES

This is to update my March 30, 1990 letter of the same subject. Future data for construction sites will be collected at the site using a portable wind monitor. The data logger attached to the portable wind monitor will activate a beacon when the 15 minute average wind speed is over 15 miles per hour. The limit of 15 miles per hour comes from past practice and experience at the Rocky Flats. Also this limit is used at the Idaho facility. The following guideline is recommended for wind effects during construction.

- Dirt moving activities will stop when the beacon remains on for two consecutive 15 minute periods.
- Dirt moving activities may resume when the beacon has been off for two consecutive 15 minute periods.

Studies are being done to verify the 15 mile per hour limit and results will be provided to all interested parties upon completion.

The drilling shutdown windspeed criteria will remain at 35 mph per the drilling procedures This windspeed limit is based on wetting techniques used in drilling procedures

laa

œ.

M B.Arndt

Ike Duran

T C.Greengard

J Koffer

BR Lewis

A.J Saunders



INTEROFFICE CORRESPONDENCE

DATE

March 30, 1990

WSB-30-90 1

TO

W. M. Bruninga, Facilities Engineering, Bldg. 130

FROM

W. S. Busby, Air Program Group, EMAD, Bldg. T130B, x5603

SUBJECT

WIND LIMITS FOR CONSTRUCTION ACTIVITIES

Attached are the wind data from January 15, 1990 to March 23, 1990 This data were collected from the 61 meter tower in the west buffer zone. Missing data is indicated by .9999 Negative winds speeds in the minimum wind speed column should be considered 0

Future data for construction sites will be collected at the site using a portable wind monitor. The data logger attached to the portable wind monitor will activate a yellow beacon when the 15 minute average wind speed is over 15 miles per hour. The following guideline is recommedned for wind effects during construction.

- Construction will stop when the beacon remains on for two consecutive 15 minute periods.
- Construction may resume when the beacon has been off for 2 consecutive 15 minute periods.

laa

以EG&G ROCKY FLATS

INTEROFFICE CORRESPONDENCE

DATE

April 5, 1990

RLM-04-90

TO

G. M. Anderson

FROM

R Morris, UNC Geotech RollMon.

SUBJECT

EVALUATION OF 881 HILLSIDE AIR MONITOR DATA

During the period of February 6, 1990 to February 20, 1990, air sampler S-81 was operated near 881 Hillside to obtain data necessary to demonstrate compliance with the Administrative Limit for radionuclides in fugitive dust of 0.03 pCi/m3

The sample was analyzed for total plutonium, Uranium-234, and Uranium-238 The results for each analyte were indistinguishable from background concentrations, with the standard deviation of the measurements being larger than the reported values For plutonium the result was less than 0.000004 pCi/m3, for U-234 the result was less than 0 00000025 pCi/m³, for U-238 the result was less than 0.00000028 pCi/m³

CONSTRUCTION DURING THE MONITORING PERIOD

Construction records for the monitoring period show the following tasks were performed by five to seven workers.

> Set forms for walls Set rebar re-inforcing steel for foundation and walls Clean-up after snowfall install waterstop General clean-up

PLANNED RESTART TASKS

Before construction work can be fully restarted, air monitoring equipment must be wired and installed. This will involve five to seven workers and one or two light-duty vehicles over a period of approximately one week. The main tasks is to pull electrical wire through conduit A hand-held vacuum cleaner will be used when pulling wire

CONCLUSIONS

The planned work is not likely to cause fugative dust activity levels significantly different from those measured during the monitoring period discussed above. The Administrative Limit of 0.03 pCi/m³ is not likely to be exceeded while performing the tasks necessary to re-start of 881 Hillside Phase 1A activities.

RLM sf

TC Greengard

Onsite Samplers for February 1990

Sampler	No.	of Samples	Total Air Volume	Total Plutonium (pCi/m3)	Total Error (pCi/m3)	
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s-07		2	33000	0.000091	0.000022	to to
S-08		2 2	37000	0.000046	0.000011	who
<u>s-09</u>		2	38000	0.000325	0.000056 ک	
S-10		21	33000	0.000007	0.00004	
s-11		21	33000	0.00005	0.00004	
S-12		21	33000	0.000022	0.00006	
S-13		21	34000	0.000001	0.00003	
S-14		21	29000	0.00002	0.000003	
S-15		21	31000	0.00003	0.00003	
S-16		21	35000	5.154865e-07	0.000003	
S-17		21	9000	0.000007	0.000012	
S-18		2/	33000	0.000040	0.000009	
S-19		21	34000	0.000036	0.000008	
S-20		2/	34000	0.000032	0.000007	
S-21		21	36000	0.000012	0.000005	
S-22		21	30000	0.000005	0.000004	
S-23		21	33000	0.000003	0.000004	
S-24		2-1	43000	0.000002	0.00003	
5-81		1	24000 UB330	_/.329/78	2-07 0.000004	!
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NEPORT 23R x 3C

Sampler	TOTAL AIR VOLUME	Total Plutoniu (pCi/m3)	Total Error (pCi/m3)
S-52 S-53 S-54 S-55 S-56 S-57 S-58 S-59	49000 56000 47000 52000 49000 52000 46000	-0.000000 0.000002 -0.000000 -0.000001 -0.000001 -0.000000	0.000002 0.000002 0.000002 0.000002 0.000002 0.000002
S-60 S-61 S-62 S-63 S-64 S-65	52000 16000	0.000000 -0.000002	0.000002
S-66 S-67 S-68 S-69 S-70 S-71	57000	0.000002	0.000003
S-72 S-73	40000	-0.000001	0.000002

Parimeter

FEB90_REPORT 14R x 3C

No. 8 Som Air Volume Input

imple		TAL AIR LUME	Total Plutoniu (pCi/m3)	Total Error (pCi/m3)
S-31		17000	-0.000000	0.000006
S-32	,	51000	-0.000000	0.000002
S-33	•	49000	0.000000	0.000002
S-34	1.	32000	-0.000001	0.000003
S-35	V	53000	0.00000	0.000002
S-36		52000	0.000003	0.000003
S-37		47000	0.000002	0.000003
S-38		50000	0.000001	0.000002
S-39		51000	-0.000001	0.000002
S-40		25000	-0.000000	0.000004
S-41		51000	0.00000	0.000002
5-42		49000	0.000001	0.000002
S-43		41000	-0.00000	0.000002
5-44		49000	-0.00000	0.000002

Onsite Samplers for Eebruary 1990

Sampler	No.	of Sa	mples	Total Air Volume	Total Plutonium (pCi/m3)	Total Error (pCi/m3)	
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S-12			21	33000	0.000022	0.000006	
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S-14			21	29000	0.000002	0.000003	
S-15			21	31000	0.00003	0.000003	
S-16			21	35000	5.154865e-07	0.000003	
S-17			21	9000	0.00007	0.000012	
S-18			2/	33000	0.000040	0.00009	
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Work Permits

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HADIOLOGICAL/HS&E WORK PERMIT  April Instructions and requirements for the use of this form are contained in HS&E 6.05 Radiological/HS&E Work Permit					
SECTION JOB INFORMATION (To be completed by job supervisor or	are contained in HS&E 6.05 RadiologicalHS&E Work Permit				
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Job Name 881 BT LSIDE BLDG 891 Foun	/ / / / / / / / / / / / / / / / / / /				
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SECTION II DESCRIPTION OF HAZARDS (To be ompleted by respons	ible user) ~				
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HF (Hydrofluoric Acid	15 psig				
Caustic T 480V	psig				
Flammabies600V	Below Ambient Temp				
Trichloroethylene Above 600					
Plutonium Laser Invo	Ambient Temp				
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P. T. F.					

ANTO WO: 986/47	5-90 BLDG 861
SECTION IV PREPARATION FOR THE JOB (To be completed by the response	
e area or equipment is ready to be worked on and is in safe condition necessary systems have been shutdown chained blanked, etc. ————————————————————————————————————	Yes
SECTION V. APPROVAL SIGNATURES	
THE ABOVE REQUIREMENTS HAVE BEEN REVIEWED WITH AND ARE UND	DERSTOOD BY ALL JOB PERSONNEL.
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! Responsible User	Job Supervisor
slogical Monitory of Foreman "f applicable)	Contractor Supervisor (1 pplicable)
HS&E Safety I ngineer	Other
WORK PERMIT EXTENDI D TO	HS&E Safety Engineer
Job Supervisor agrees to bour area daily to ensure compliance with HS&E require	ements (Initials required to each day of extension)
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HNO (Natic Acid) HCI (Hydrochloric Acid)	Yes	710		it Pressure
H,90 (Sulfuric Acid)		•	15 p	
	2207		>130	psig
Caustic	480V 600V	£-9_	Below .	Ambient Temp
Flan mables Trichloroethylene	Above 60	χον		+ ~
Beryllium		γ	An bier	t Temp
Plutonium	Laser Im			Ambient Temp
Ura ium	Microwa	ve Involved?	Steam	System
Asbestos	_			lic System
Fine Suppression Interruption?	Yes No		7	4
FRIS Supplement line replient	***		en a kanaal libaa	o K
Other hazards and precautions	LININDS OWN	30 MPH. S	but sown won	
~	•••			
SECTION III PADIOLOGICAL AND N	ONRADIOLOGICAL SAFETY RE	QUIREMENTS (To be com	pleted by Radiological Monitorin	g and/or HS& E 48 Mary E
special signer)				
	· 1/11 ** "	PANIOI O	SK AL MONITORING REQUIRE	D TES N
Land and the second sec	Yes No			£.e.
PROTECTIVE APPAREL 1	RESI IRATORY REQUIREMENTS	RADIOLOG	BILAL MONITORING PRE-JOB	SURVEY
Coveralis	Half Mask *			Service Control of the Control of th
Tyvek Suit	d FHF Œ	Contamina	tion levils and extent	
Plastic Suit	S pplied Breathing Air			
Acid Suit	S' BA	Gamr a	Δ	A District of the Control of the Con
Surgeon & Gloves	Chemical Canister	Neutron		
Plastic Gloves Rubber Gloves	RADIOLOGICAL MONITORING	Limitations		سنسبية إلى: هي تستيفينيسينيسيديس شب
Le ther Gloves	REQUIREMENTS			was some one where
Cloth Cap	Start of job			2 to
Cloth Hood	On call	5	al Mandae Connehim	
Plastic Hood	Fill time	Hadiologic	al Montor Signature	greed gar with the
Bootles	DOCUMENTS	. *	<b>4</b> ,	The second second
Plastic Bootes Rubber Boots	DOSIM TRY REQUIREMENTS	RADIOLO	GILAL MONITORING POST-K	B.SURVEY 系列表
Salety Glasses A3 Re Q.D.	E-dremity Dosimeter	•		chi of high
Goggles	Special Dosimeter	Contamina	ution levels and extent	
Face Shield	The second secon	7 MK	Table . Our	* 4 ANTIN
Hard Hat	ELECTRICAL PROTECTION	Gemma	<u> </u>	
TOTAL PROPERTY OF THE PROPERTY	REQUIREMENTS PARTY AND TO THE TOTAL PROPERTY OF THE PROPERTY O	Neutron _	The state of the s	
Taped Openings	/ Insulating Mat		3	Medical times of the
1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Insulating Blanket	The state of the s		
CONTAMINATION CONTROL	Committee of the		al Afrailage Olymphymas and	
VENTLATION REQUIREMENTS	Lifton Voltage State 45	Hadiologic	al Monitor Signature	<b>"大学是是</b>
<b>可以从一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个</b>	The second second			
Containment Pan	Class		The state of the s	*
SBA House	Hot Stoke \$2	Other Spe	cial Requirements Zazan AR	
Plasto Sleeve	CAT CAT INCOME	3		ない。「大人工事
A CLICKON BOT TO THE PERSON	Thin plated Bucket Truck	FIACE	Constitution of the second	STATE OF THE PARTY
Down Draft	Grounding Cable	- Place	Amund France	ACURAL THE
GB Eshauet	V	14.2 A 2.3.	、それの大学は	
The state of the s	CT XI WALLEY	AND THE POPPO	U O I Table of the second	The same of the sa
The second secon	LETTER PROPERTY AND A PROPERTY OF	CONTRACTOR OF THE PARTY OF THE	THE PROPERTY OF THE PROPERTY O	Committee to the second
The second secon		The state of the s		the state of the same the west of the

Date 1-29-90
SECTION IVA PREPARATION I-OR THE JOB (To be completed by the responsible user and job supervisor)
The area or equipment i ready to be worked on and is in safe condition.  Independent part of the processor systems have been shutdown fire ned blanked, etc.  Independent part of the processor systems have been locked out/regged out.  It is a seen notified of upcoming work and i prepared.  Yes N/A  Yes N/A  The Fire Department h been notified of upcoming work and is prepared.  Yes N/A  Yes N/A
SECTION V APPROVAL SIGNATURES
THE ABOVE REQUIREMENTS HAVE BEEN FEVIEWED WITH AND ARE UNDERSTOOD BY ALL JOB PERSONNEL.
X ann Sulas Howard Smith yell
(Job personnel sign ture)
The Building Manager ( design ie) h been obtiled 1 pcoming work (nobfier ( tial )
THE S GNATURES BELOW INDICATE REVIEW AND CONCURRENCE WITH THE WORK PERMIT
In Cas Bruninga
Responsible User Job Supervisor
Jonal Monitoring Foreman (If applicable)  See Sulf Community Contractor Supervisor (1 pplicable)
OP. Link
HS&E Safety Engineer Other
SECTION VI PERMIT EXTENSION
WORK J ERMIT EXTENDED TO 2-12-90
HS&E Safety Engineer
Job Supervisor agrees to trur area daily to ensure compliance with HS&E requirements (Initials required for each day of extension)
Dates /-30 , /-31 2-1 2-2
Initials On A COMM Reflection
DISTRIBUTION
Job Supervisor White (letain permanenth with job file) Pesponsible User Blue (retain for 30 days) Radiological Monitoring of Yellow (natain for 30 days)
POST CARD AFJOB SITE
FIRE AND EMERGENCY - DIAL 2911
Pege 2 d 2

	Instructions and requirements for the use of this formula contribution.  SECTION 1 JOB INFORMATION (To be completed by job supervisor of pertit intic	WORK PERMIT. José GALLA Company Tou 6 GALLA COMPANY TOUR PERMIT TO
	Job Name KEMEDIAL ACTION 881 Hollside	Auth or WO # 986147
	Bldg. 89/ Room # Date 2-5-72	From 7 00 (AMPM) To 4130 (AMPM)
	special Work 3.677/NC FORMS SETTING LETTE	COCEMENT STEEL / Possibly Pour
	Concrete dos fordanon walls	" Ween the second secon
	SECTION IL * DESCRIPTION OF HAZARDS (To be completed by responsible user)	
	MATI_RIAL HAZARDS ELECTRICAL HAZARDS	HIGH TEMP/HIGH PRESSURE
-	HNO (Nitric Acid Energized System	√ Vacuum 4
	HSO (Sulfuric Acid)  HF (Hydrofluoric Acid)  220V	Ambie t Fressure
1	Calistic	>15 psig
	Flammables 800V	Below Ambient Temp
	Benyllium Above 600V	
İ	Plutonium Laser Lyunium/2	Ambi int Temp
	Uraniu n	Above Ambient Temp
	<del></del>	Stea System
	Fire-Suppression Interruption? Yes No	Hydraulic System
	Other hazards and precautions HIGH WILL CONTRACTOR	LOUL BO NOTIFIED TO SHOOT DOWN
	CARE 10 TH WOOLKING MESS	ND PORTISCE GENERATOLS
1	SECTION IL FRADIOLOGICAL AND NONRADIOLOGICAL SAFETY REQUIRE MENTS	S (To be completed by Radiological Monitoring and/or HS&E Sitk En-
	JOBSITE REVIEW REQUIRED Yes No	PADIOLOGICAL MONITORING TO THE STATE OF THE
1		RADIOLOCICAL MONITORING REQUIRED YES NO
	Coveralls A Half Mask	BADIOLOGICAL MONITORING PRE-JOB SURVEY
Ī	Tyvek Suit Full Face Plastic Suit Supplied Breathing Air	Contamination levels and extent
	SCBA	
Ľ	Plastic Gloves	Gamma
	Rubber Gloves A RADIOLOGICAL MONITORING	Neutron
~	HEOUIREM NTS	The state of the s
<b>!</b>	Cloth Hood Start of job On call	
	Plastic Hood	Radiological Monitor Signature
1	Plastic Bootles A DOSIMETRY DECLUDENCATO	
	Rubber Boots	BADIOLOGICAL MONITORING POST-IOB SURVEY
-	Safety Glasses As per OSHA Extremity Dosimeter Googles requirement Special Dosimeter	in the series of
	Frice Sheld	Contamination levels and extent
-	Hard Hat Hearing Protection Hearing Protection	
•	Tiped Openings (Consult Job Supervisor)	Gamma
	Other Insulating Mat 1997	Neutron
Ç	ONTAMINATION CONTROL	
Ŷ	ENTILATION RECUIREMENTS THE HIGH Voltage Sleaves	Radiological Monitor Signature
	Containment Pen	
	Pleastic House	
		Other Special Requirements ARM ROMAN
	Gikwe Be 1 Insulated Bucket Truck	FLACE EVERY L. Been L. B.
	Air Mover Grounding Cable of Principles	
ō	GB E ha ist	HNUSED Lumber Secure
	ither	BANDING OR OTHER MOVE
•		arms - and the state of the sta
<b>PE</b>	30 0 (Rev 11/8th) Supercedes P evious leaues	Page Lot 2
		· · · · · · · · · · · · · · · · · · ·

MI 20

Date 2-5-90
SECTION IV PREPARATION FOR THE JOB (To be completed by the responsible user and job superv sor)
recessary systems have been shutdown, drained, blanked, etc
SECTION Y APPROVAL SIGNATURES
THE ABOVE REQUIREMENTS HAVE BEEN FIEVIEWED WITH AND ARE UNDERSTOOD BY ALL JOB PERSONNEL  Testy Surdice  Testy Surdice
(Job personnel signatures) /
The Building Manager (o desig te) has been obified of proming work nobifiers in (1)  THE SIGNATURE; BELCIW INDICATE REVIEW AND CONCURRENCE WITH THE WORK PERMIT
Responsible User  A-1506  Responsible User
pical Monitorying Foreman (I applicable)  Co tracto Supervisor (il pplicable)
HS&E Safety Engineer Other
WORK F ERMIT EXTENSION  WORK F ERMIT EXTENDED TO 2-7-5'0  HS&E Safety Engineer
Job Supervisor agrees to to a area daily to ensure compliance with HS&E requirements (Initials required for each day of extension)
Dates 2-2 2-9
Initials - A - A - A - A - A - A - A - A - A -
DISTRIBUTION Job Supervisor White (putely permanently with Job Sign)
lob Supervisor. White (netain permanently with job lile) Responsible User Blue (retain for 30 days) Radiological Monitoring Yellow (retain for 50 days)
POST CARD AT JOB SITE
FIRE AND EMERGENCY - DIAL 2911

			The second secon
Instructions and requirements forther than bittle (1984)	CONTRACTOR IN HISAEL B 05 R	adiological/HS&EWo	ork Permit
SECTION TO INFORMATION TO		<b>一种"一"</b>	
Mariana Comence Contract Contract		POSLIKT	
	The state of the s	THE PART IN	
Bidg	2 Part 0200	AMPM To	630 AMPHI
POPUL WORK CINTANUE TO THE	A PARILLE	evir st	
	Barren a comment		
	To a second second		A STATE OF THE PARTY OF THE PAR
SECTION II DESCRIPTION ON HAZARDANCE IN THE SECTION OF THE SECTION			**************************************
			and and
MATERIAL HAZAROS	03 20 20 20	HIGH TEMP	HIGHTPRESSURE
L HNO (Hithoracid)		The Park of the Pa	45.50
HCI (hydrochloric Acid)		Vacuum	r Pressure
H 90 (Suiturio Acid)		<15 psk	
Causto de la la causta de la cau		*15 psk	
Flammables		Polose A	Imbient Temp
Trichloroethylene Beryffum		3	
Plutonium	Manual Carry	Ambient	
Uranium 2		Above A	mbient Temp هند بسند.
Asbestos	The state of	Steam S	System & ****
Fire Suppression Interruption?	Company Ser		c Cystem 🗸 🛴 🥆
- when I then the war planting the 45 MAA .	· pro	<b>, y</b>	_ /
Other hazards and precautions the White of	I work strong	cop. W	was of
ISMAHALL SOLL MOUND OF EVEN	danal - us	7:40	The same of the same of
SECTION III PATHOLOGICAL AND NORMADIOLOGICAL SAFETY REQUIRE M	IENTS (To be completed by F	Radiological Monitoring	and/or HS&E Salety En-
	C	- A	advant of start of all
1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、1、		, r	
JOBS TE REVIEW REQUIRED!	RADIOLOCICAL VIO	NITORING REQUIRED	YES NO
		NITORING REQUIRED	The state of the s
PROTECTIVE APPAREL PROTECTION RESIDENT PROTECTION OF THE PROTECTIO		NITORING REQUIRED	The state of the s
PROTECTIVE APPAREL BESSIATORY REQUIREMENTS THAT MARK THAT PAREL TH		NITORING PREJORS	The state of the s
PROTECTIVE APPAREL PROTECTION OF THE PROTECTION	RADIOLOGICAL WO	NITORING PREJORS	The state of the s
PROTECUE APPAREL  RESPIRATORY: REQUIREMENTS  White Mask  yeshi But  and Suit  Acid Suit  SCBA  Urgeon's Gloves  Sign Sign Sign Sign Sign Sign Sign Sign	RADIOLOGICAL WO	NITORING PREJORS	The state of the s
PROTECTIVE APPAREL  BESSIRATORY: RECUIREMENTS  Will Mask  yvolv But  Full Pace  Bupplied Breathing Ar  Actd Suit  Lurgeon's Gloves  Instal Gloves  Tastd Gloves  Tastd Gloves	BADIOLOGICAL VIO	NITORING PREJORS	The state of the s
PROTECTIVE APPAREL  BESDIRATORY REQUIREMENTS  Half Mank  Yoshigair  Institute State  James J.  SCBA  Lurgeon's Gloves  Flastic Gloves  Flastic Gloves  Rabiol OGICAL MONITORING  Leather Gloves  BEDUIREM MTS	BADIOLOGICAL VIO Co tami attorr levels Gamma	NITORING PREJORS	The state of the s
PRO METURA PRAREL  BESDIRATORY: REQUIREMENTS  Half Mank  Yeshight  Full Pace  Burphio Breathing Ar.  Acid Suit  Ligend's Gloves  Flastic Gloves  Rabic Gloves  Rabic Gloves  Rabic Gloves  Rabic Gloves  Reculled Monitoring  Reculled Monitoring  Reculled Monitoring  Reculled Monitoring  Reculled Monitoring	BADIOLOGICAL MO Co tami attor levels Gamma Neutron	NITORING PREJORS	The state of the s
PROTECTION APPAREL  BESSIGNATION REQUIREMENTS  Half Mask  yvolkish  Full Page  Supplied Breathing Art  Actd Suit  Ligeon's Gloves  Flutter Gloves  Fasting Gloves  Fasting Gloves  Flutter Gloves  Cloth Core  Clo	BADIOLOGICAL MO Co tami attorr levels  Gamma Neutron Lim tations	a d extent	The state of the s
PROTECTIVE APPAREL  BESSIGNATORY REQUIREMENTS  Half Mask  yvolvish  Full Page  Supplied Breathing Art  Acid Suit  Ligeon's Gloves  Full Page  Full Page  Bapplied Breathing Art  CBA  Chemical Censtor  Fastor Gloves  Full Breathing Art  CBA  Chemical Censtor  Fastor Gloves  Full Breathing Art  CBA  Chemical Censtor  CHE	BADIOLOGICAL MO Co tami attor levels  Gamma Neutron Lim tabons	a d extent	The state of the s
PROTECTION APPAREL  BESSIGNATION REQUIREMENTS  Half Mask  Yestignit  Supplied Preathing Art  Acid Suit  Acid Suit  Acid Suit  Surgeon's Glaves  Flashot Glaves  Flashot Glaves  Cloth, Car  Leath Flood  Fastic Flood  Fastic Flood  Fastic Bootles  Plasto Bootles  Posside Flood  Pasto Bootles  Posside Flood  Pasto Bootles  Posside Flood  Pasto Bootles  Posside Flood  Pasto Bootles  Posside Flood	Radiological Monitor S	a d extent	The state of the s
PROTECTION APPAREL  BESSIGNATION REQUIREMENTS  Half Mask  yeshibit  Sasta Stat  Acid Suit  Acid Suit  Surpeon's Glaves  Flasta Glaves  Flasta Glaves  Chemical Canstor  Fasta Glaves  RADIOLOGICAL MONITORING  Leath Flood  Fasta Roots  Pasta Bootes  Position Roots  Colline The Colline Ments  Position Roots  Colline The Colline Ments  Position Roots  Colline The Colline Ments  Colline The Colline Men	Radiological Monitor S	a d extent	UHVEY
PROTECTIVE APPAREL  BESDIRATORY REQUIREMENTS  Half Mank  Yeshing State Instruction S	RADIOLOGICAL MO	a d extent  Signature  SITORING POST-NOR	UHVEY
PROTECTIVE APPAREL  BESDIRATORY REQUIREMENTS  Half Mank  Yeshing State Instruction S	RADIOLOGICAL MO	A d extent A description of the strent and extent and e	URVEY
PROTECTIVE ADPAREL  BESDIRATORY REQUIREMENTS  Half Mank  Yeshight  Instruction State  Acid Suit  ScBA  Lurgeon's Gloves  Flastic Gloves  Flastic Gloves  RADIOLOGICAL MONITORING  Leather Gloves  Leather Gloves  Clott Cup  Leath Hood  Plastic Rootes  Plastic Rootes  Plastic Rootes  Plastic Rootes  DOSIMETRI REQUIREMENTS  Sabriy Classes 45 770 D  Extremity Dosimate:  Sabriy Classes 45 770 D  Special Dosimate:  Extremity Dosimate:  Special Dosimate:  Face Shield  Face Shield  ELECTRICAL PROTECTION	RADIOLOGICAL MO	a d extent  Signature  SITORING POST-NOR	UHVEY
PROTECTIVE A PLASE   BESSIGATORY, REQUIREMENTS    Half Mask	BADIOLOGICAL MO Co tami attorr levels  Gamma Neutron Lim tations  Radiological Monitor S  BADIOLOGICAL MON Contaminations levels	a d extent  Signature	URVEY
PROTECTIVE ADPAREL  BESDIRATORY REQUIREMENTS  Half Mank  Yester State  Institution State  Actd State  Lurgeon's Gloves  Flastic Gloves  Flastic Gloves  Flastic Floor  Reculter Monitoring  Leather Gloves  Leather Gloves  Leather Gloves  Clott Cap  Leath Hood  Plastic Bootles  Plastic Bootles  Plastic Bootles  Plastic Bootles  DOSIMETR REQUIREMENTS  Sabriy Classes 45 770 D  Extremity Dosimate:  Sabriy Classes 45 770 D  Special Dosimate:  Extremity Dosimate:  Face Shield  Hearing Protection  Taped Dosolings on Committee Superson in	BADIOLOGICAL MO Co tami attor levels  Gamma Neutron Lim tations  Radiological Monitor S  BADIOLOGICAL MON Contamination levels	a d extent  Signature	URVEY
PROTECTIVE ADPAREL  BESSIRATORY REQUIREMENTS  Half Mank  Yeard Sus  Instance Sus  Inst	BADIOLOGICAL MO Co tami attorr levels  Gamma Neutron Lim tations  Radiological Monitor S  BADIOLOGICAL MON Contaminations levels	a d extent  Signature	URVEY
PROTECTIVE ADPAREL  BESSIRATORY REQUIREMENTS  Half Mank  Yeard Sus  Instance Sus  Inst	Gamma Neutron Limitations  Radiological Monitor S  BADIOLOGICAL MON Contamination levels  Gamma Neutron	a d extent  Signature  IITORING POST-JOB  and extent	URVEY
PROTECTIVE A PPAREL  BESSIRATORY: REQUIREMENTS  Hall Mank  Yester State  Instruction State  Lurgeon's Gloves  Flastic Gloves  Flastic Gloves  Rabic Local Canstor  Flastic Gloves  Reculrem Into  Leather Gloves  Clott, Cap  Clott, Cap  Platfit Hoods  Platfit Hoods  Platfit Hoods  Platfit Hoods  Salary Classes 45 / 77 D  Salary Cla	BADIOLOGICAL MO Co tami attorr levels  Gamma Neutron Lim tations  Radiological Monitor S  BADIOLOGICAL MON Contaminations levels	a d extent  Signature  IITORING POST-JOB  and extent	URVEY
PROFINE TVR APPAREL  SAMPLE SERVICE SUPPLIES SERVICE SUPPLIES SERVICES SUPPLIES SUPP	Gamma Neutron Limitations  Radiological Monitor S  BADIOLOGICAL MON Contamination levels  Gamma Neutron	a d extent  Signature  IITORING POST-JOB  and extent	URVEY
PROFILE TURE ADPAREL  Colorado	Gamma Neutron Lim tabons  Radiological Monitor S  RADIOLOGICAL MON Contamination levels  Gamma Neutron Radiological Monitor S	a d extent a d extent  Signature  IITORING POST-JOB  and extent	URVEY
PROFITCH PAREL  COMMENT  CONTROL  Year State  Acid Sta	Gamma Neutron Limitations  Radiological Monitor S  BADIOLOGICAL MON Contamination levels  Gamma Neutron	a d extent  Signature  IITORING POST-JOB  and extent	URVEY
PROFIDE LAR ADPAREL  Colorador Color	Gamma Neutron Lim tabons  Radiological Monitor S  RADIOLOGICAL MON Contamination levels  Gamma Neutron Radiological Monitor S	a d extent a d extent  Signature  IITORING POST-JOB  and extent	URVEY
PROFICE OF ADPAREL  PROFICE OF ADPAREL  PROFILE ADPAREL	Gamma Neutron Lim tabons  Radiological Monitor S  RADIOLOGICAL MON Contamination levels  Gamma Neutron Radiological Monitor S	a d extent  indications  indica	URVEY
PROFECTIVE ADPARE  Covers by Very But Covers	Gamma Neutron Lim tabons  Radiological Monitor S  BADIOLOGICAL MON Contamination levels  Recipion Radiological Monitor S  Radiological Monitor S  Recipion	a d extent  Signature  IITORING POST-JOB  and extent	URVEY
PROFILE TUPE ADPAREL  PROFILE TUPE ADPAREL  PROFILE TO THE MERITARY RECUIREMENTS  Profile To The Control of The	BADIOLOGICAL MO Co tami attorr levels  Gamma Neutron Lim tations  Radiological Monitor S  BADIOLOGICAL MOP Contamination levels  Gamma Neutron Radiological Monitor S	a d extent  indications  indica	URVEY
PROTRICIUE ADPAREL  Selection  Yestershi  Institute and State  Institute	Gamma Neutron Lim tabons  Radiological Monitor S  BADIOLOGICAL MON Contamination levels  Gamma Neutron  Radiological Monitor S  BADIOLOGICAL MON Contamination levels  Gamma Neutron	a d extent  indications  indica	URVEY
PROFECTIVE ADPARE  Covers by Very But Covers	Gamma Neutron Lim tabons  Radiological Monitor S  BADIOLOGICAL MON Contamination levels  Gamma Neutron Paciological Monitor S  Radiological Monitor S	a d extent  indications  indica	URVEY

CONTINUED SLDG OF	7000
14 1 1 2 12 12 12 12 12 12 12 12 12 12 12	The state of the s
PREPARATION FOR THE JOB (To be completed by the responsible user and job supervisor)	*
The condition ready to be worked on and is in safe condition  Tes  Tes  Tes  Tes  Tes  Tes  Tes  Te	my me the state of
Voltage checked after lock out.	- ,
Utilities has been notified of upcoming work and is prepared.  Yes C-N/A  The Fire Department h s been offied of upcoming work and is prepared.  Yes C-N/A  Yes C-N/A	
SECTION Y APPROVAL SIGNATURES	
THE ABOVE REQUIREMENTS HAVE BEEN FIEVIEWED WITH AND ARE UNDERSTOOD BY ALL JOB PERSONNEL	The state of the s
1-baul of damide and Jalus John	also !
X many many many many many many many many	~ = 3 %
(Job personnel signatures)	
The Billding Manager ( r designee) has been notilled of upcoming work (Notifier's in tall)	
THE SIGNATURES BELC W INDI ATE REVIEW ND CONCURRENCE WITH THE WORK PERMIT	~   a
Win Bruninga Smelling	*
Responsible User Job Supervisor	*
Tout ocame	
'ogical Monitoring Foreman (il applicable)  Contractor Supervisor (if pplicabl )	13
Aluk Breme	3
HS&E Selety Engineer Other	w. 82 }
SECTION VI - PERMIT EXTENSION	~
WORK PI AMIT EXTENDED TO 2-16-203	
HS&E Safety Engineer	
lob Supervisor agrees to tour area daily to ensure compliance with HS&E requirements (Initials required for each day of extension)	
Dates 2-13 2-14-2-15 2-16	The state of the s
Iritials Of Annual Of Annu	
DISTRICT TOWN	
ob Supervisor And White (retain permanent) with lob file) its and the same of	
Flesponsible User Blue (pitters for 30 theys) (Fluctiological Monitoring Vellow (think) for 30 theys)	
FOST CARD AT JOB SITE	
FIRE AND EMERGENCY - DIAL 2911	Page 2 of 2

OBJET TO AMATION (To be completed by	intermentacy by permit artistics (	9 05 Radistrible VHS&E Work	Permission
Jan 181 Hell Sila Remi	A action Phone Time	rwo 1 986 147	The state of the s
Plug 89/ Room + Tounday for	Date 2-17-90 From 0	700 GMPM) To 16	OU TOMEM
Cope of Work Fet water	top & fully	swell for	
Place Omeset	fly - Degeter	in Comphaled	
SECTION II DESCRIPTION OF HAZARDS (To be con	pleted by responsible (ser)		
MATERIAL HAZARDS	ELECTRICAL HAZAROS		3H PRESSURE
HOE (Hydrochlono Acid)	Energized System?	The many	ressure
H,SO (Sulfurio Acid) HF (Hydrofluorio Acid)	120V 220V	<15 psig	The second second
Immables	480V 600V Above 600V	Below Ami	bient Temp
Beryllium Plutonium	Laser Involved?	Ambient To Above An	
Asbestos	Microwave Involved?	Steem Sys	tem
Fire Suppression Interruption? Yes / No		Hydrax lic :	System
Other hazards and precautions	The per Spece , cones	& hest as ug	mud -
Plane	of 40 F. 9 sun		
SECTION III. MADIOLOGICA 2800 NONRADIOLOGIC	AL SAFETY RECUIREMENTS (To be comp	letert by Radiological Monitoring a	nd/of HSAE Salety En-
JOBSTE MEVIEW REQUIRED	RADIOLOG	ICAL MONITORING REQUIRED_	YES NO
TECTIVE APPAREL TO THE RESPIRATORY F	the state of the s	ICAL MONITORING PRE-108 SU	RYEY
Flastic Suit Supplied Sn	# **	on levels and extent	
Acid Suit			info the transport of the second
Flightest Gloves Factor Recourse RECOURSEMENTS		A SEA SEASON OF THE SEASON OF	
Cloth Cap Start of lob-			
Plastic Hood Booties	Hadiologica	Monitor Signature 3	
Plaste Bootes PAR OSA/A TLD Dosine Safety Classes PAR OSA/A Extremity Do	MOTION MELECULARY TO THE BADIOLOGI	ICAL MONITORING POST-JOB S	URVEY
Safety Classes VEN 08/10 Extremity Do Googles Care Management Control Deli	Contaminati	n levels and extent	Walt on the last
Hard Hat ELECTRICAL PROPERTY HEAVING PROTECTION AREQUIREMENTS	OTECTION		
Taped Openings (Consult Job Surpa	at New York	and the state of t	2.500
CONTAMINATION CONTROL  COVER 150  VENTILATION RECUIREMENTS			
VENTILATION REQUIREMENTS HON VINE OF THE HON V	Ciones	Monitor Signature	
SBA House State Hot Skitter	Class William Special Control Special Control Special Control Control Special Control	al Pequirements	
Colore Bog		11118	
Down Draft Grounding S	tck to a contract to the contr	all free for the	Monto
Other		and pariol	
RF 130 O Rev 11 59) Subgroudes Previous lissues			Page 1 of 2
	ويستنظى بياني ويسيده والمتحادث والمستحاط والمتحادث والمتحادث والمتحادث والمتحادث والمتحادث والمتحادث والمتحادث		mandal and an areas

10 10 10 10 10 10 10 10 10 10 10 10 10 1	
A necessary systems have been locked our ragged out a voltage checked after lock out.  Unities has been notified of upcoming work-and is prepared.  The Fire Department has been worked in and is in safe conditions.  Yes N/A  N/A  Yes N/A  Yes N/A  N/A	Bridge of the Control
The Fire Department has been riotified of upcoming work and is propared.  SECTION V. APPROVAL SIGNATURES.  THE ABOVE REQUIREMENTS HAVE BEEN REVIEWED WITH AND ARE UNDERSTOOD BY ALL JOB PERSONNELL.	
The Building Manager ( designise) has been rotified of upcoming work (notifier's fritials)	
THE SIGNATURE BELOW IND CATE REVIEW AND CONCURRENC WITH THE WORK PERMIT  Responsible User  Job Supervisor D 133	9 K 76021
HS&E lafety Lngmeer  Other	cable)
WORK PERMIT EXTENSION  WORK PERMIT EXTENDED TO FROM 1990  HS&E Safety E  Supervisor agrees to tour area daily to ensure compliance with HS&E requirements (Initial req ired for each	The state of the s
Dates 2-19 2-20 22/ 2-23 2-23	
Job Supervisor  White (retain permanenti) (with job file)  Responsible User State Blue (retain for 30 days)  Radiological Monitoring  Yellow, (state blue to state to	
FIRE AND EMERGENCY - DIAL 2911	Page 2 of 2

natructions and requirements for the use of this for	ALHSAE WORK PERMIT
instructions and requirements for the use of this for	Straining to a second s
	m and contained in HS&E 6 05 Radiological/HS&E Work Regmit
ELLON I WOB INFORMATION (To be con pleted by job supervisor o	a recently feriple party and ferrill and the control of the contro
## [ MARKET 9-14-1 ]	11.4
Note Name Ramapial ACTION 881 45 (FOUNDATIONS	240) Auth or WO # 986147
***************************************	1001 01 110 W
Bidg: 34/ Room # Date 2-26	-90 From 0700 (AMPM) TO 1.630 (AMPM
Scope of WORK REMOVE FEHAPAT ON WALL FOR	ms PATENWALL START COMPACTION & BACKFOLD
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START FIRMATION LERGE CATE IN	WORFOR HA MONITA, START SETTING RE COR ON THE
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WO 986 147 Date	TB 24, 1980
SECTION IV PREI ARATION FOR THE JOB (To be completed by the response	consible user and job superviso )
The area or equipment is religious to be worked on and is in safe concition. The necessary systems have been shutdown drained blanked, etc. The necessary systems have been locked out/tagged out. If I have checked after lock out. Utilities has been notified of upcoming work and is prepared. The Fire Departmen in its been notified of upcoming work and is prepared.	Ye Yes N/A
SLCTION V APPROVAL SIGNATURES	
THE ABOVE REQUIREMENTS HAVE BEEN REVIEWED WITH AND ART U	JNDERSTOOD BY ALL IOB PERSONNEL
Sail & Consombers	Jon Sales
amer Jales	
(Job persons	nnel signatures)
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THE SIGNATURES BELOW INDICATE REVIEW AND CONCURRENCE WI	ITH THE WORK PERMIT
Vin Comingin	Caul A Cotomubio
Responsible User.  X 1115 D 1506	Job Supervisor Contractor 23634
dological Monitaring Foreman (if applicable)	Contractor Supervi or (if applicable)
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HS&E Safety Engineer	Other
* 10-4	Annual Control of Cont
WORK PERMIT EXTENSION WORK PERMIT EXTENDED TO MARKET 4, 1690	lf Martin
i Alphanala	HS8 E Safety Engineer
Job Supervisor agrees to tour area daily to ensure compliance with H'5&E requ	pulrements (Initials required for each day of extension)
Dates FEB27 FEB28 MARI MAR 2	2 MAR 3 MAR 4
initially District Williams Wi	A A A A A A A A A A A A A A A A A A A
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Job Supervisors White (retain permanently with lob file) A Pesponsible User Blue (retain for 30 days)  Radiological Monitoring Yelow (retain for 30 days)	The state of the s
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ristruction and requ	irem ints for the use of this form are contain	ned in HS&E 6 05 Radiological/HS&E-Werk Permit-
JON VOOR INFORMATION (To	be completed by job supervisor or perm t initiate	x)
Job Name REMEDIAL	ACTION 88145 MASS	Z Auth # WO # 986/47
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g neer)	YONHALIOLOGICAL SAFETY HEQUIREMENTS	S (To be completed by Radiological Mo_t_ng_and/or HS&' ⊸f ty
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ce Shield	ELECTRICAL PROTECTION	
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Taped Ope mys	(Consult Job Supervisor)	Neutron
Other	Ir sulating Mat	
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RADIOLOGICAL/HS&E WORK PERMIT CONTINUED Bedy 891. M. x Date CTION V PREPARATION FOR THE UOB (To be completed by the responsible user and job The area or equipment is ready to be worked o and is in safe condition The necesuary system have been shutdown drained blanked, etc. --Yes The necessary systems have been locked out/tagged cut #_ Yes -N/A Voltzige checked after lock out. Yes N/A Utilities has been notified of upcoming work and is prepared Yes -N/A The Fire Department has been outlied of upcoming work and is prepared Yes -N/A Yes 4-N/A 1 SECTION Y APPROVAL SIGNATURES THE ABOVE REQUIREMENTS HAVE BEEN REVIEWED WITH AND ARE UNDERSTOOD BY ALL JOB PERSONNEL The Building Manager (or designee) has been notified of proming work (notifier's initials) THE IGNATURES BELOW INDICATE REVIEW AND CONCURRENCE WITH THE WORK PERMIT 1.7 Responsible User Job Supervisor logical Mogitoring I-oremani (if applicable) 🐉 (1999) Co tractor Supervisor (if applicable) HS&E Safety Engineer Other SECTION VI PERMIT EXTENSION > WORK PERMIT EXTENDED TO Job Supervisor agrees to tour area daily to ensure compliance with #S&L requirements (Initials required for each day of extension) Dates بيكت initials DISTRIBUTION Job Supervisor White (retain permaner by with job file) Responsible User Blue (retain for 30 days) diological Mon to g Yellow (retain for 30 days) POST CARD AT JOB SITE

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4	Other thezants and pre	Cautions W	IND BYB	ZIS MILL	No share	frend as	_ /
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	JOBSTIE REVIEW RED	114434.30-25	- Tarana - T	A STATE OF THE STA	Separation of the second	The Address of Article St.	
	JOBSTIE REVIEW REC	URED	Yes No.	A STATE OF THE STA	Separation of the second	ITORING REQUIRED	
	MECTIVE APPARE	UIRED	Yes No.	A STATE OF THE STA	RADIOLOGICAL MON	IITORING REQUIRED	YES _ NO
	Coveralls	UIRGO	Yes No RESPIRATORY B	A STATE OF THE STA	RADIOLOGICAL MON	IITORING REQUIRED	YES _ NO
	Coveralls Tyvek Sult	UIRGO	RESPIRATORY, R	EOUIBEMENTE	RADIOLOGICAL MON	ITORING REQUIRED	YES _ NO
	Coveralls Tyvek Suff	UIRGO	AESBIRATORY R Half Mask Full Face Sup; fied Bre	EOUIBEMENTE	RADIOLOGICAL MON  BADIOLOGICAL MON  Contamination levels a	ITORING REQUIRED	YES _ NO
	Coveralls Tyvek Suff Pasto util	UIRGO	Yes No RESPIRATORY B	EOUIBEMENTE	RADIOLOGICAL MON  BADIOLOGICAL MON  Contamination levels a	ITORING REQUIRED	YES _ NO
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	Coveralis  Tyvek Suff  Pastic suff  Axid Suit  Surgeon & Gloves  Plastic Cloves  Rubber Gloves  Leather Gloves	UMEDZ	AESPIRATORY. B L Half Mask Full Face Supy fied Bree SCBA Chemical Car ADIOLOGICAL	EOUIBEMENTS athing Air mister	RADIOLOGICAL MON  BADIOLOGICAL MON  Contamination levels a	ITORING REQUIRED	YES _ NO
	Coveralls  Coveralls  Tyvek Suff  Pastic uit:  Axid Suit:  Surgeon's Gloves  Plastic Gloves  Rubber Gloves  Ceather Gloves  Cloth Cap	UMEDZ	AESPIRATORY. B  Half Mask Full Face Sup; fied Bre SCBA Chemical Car  ADIOLOGICAL MEQUIREMENTS	EOUIBEMENTS athing Air mister	RADIOLOGICAL MON  RADIOLOGICAL MON  Gontamination levels a  Gamma  Neutron	ITORING REQUIRED	YES NO
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	Coverals  Tyvek Suff  Tyvek Suff  Pasio uit  Acid Suit  Surgeon's Gloves  Plastic Cloves  Rubber Gloves  Cloth Cap  Cloth Cap  Plastic Hood  Plastic Hood  Plastic Hood	UMEDZ	AESPIRATORY, B  Half Mi sk  Full Face  Supr fied Bree  SCBA  Chemical Car  ADIOLOGICAL M  EQUIREMENTS  Stan of job  Full pine	EOUIREMENTS attaing Air nister AONITORING	RADIOLOGICAL MON  BADIOLOGICAL MON  Contamination levels a  Gamma  Neutron  Limitations	ITORING REQUIRED	YES NO
	Coverells  Tyvek Suff  Pastio utit  Pastio utit  Acid Suit  Surgeon's Gloves  Plastic Cloves  Rubber Gloves  Cloth Cap  Cloth Cap  Plastic Hood  Plastic Bootes  Rubber Bootes	URGOZ	AESPIRATORY, B  Half Mi sk  Full Face  Supr fied Bree  SCBA  Chemical Car  ADIOLOGICAL M  EQUIREMENTS  Stan of job  Full pine	EOUIBEMENTS athing Air mister	RADIOLOGICAL MON  BADIOLOGICAL MON  Gontamination levels a  Gamma  Neutron Limitations  Radiological Monit of Si	ITORING REQUIRED ITORING PRE-IOB SI	YES NO
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	Coverells  Tyvek Suff  Pastio utit  Pastio utit  Acid Suit  Surgeon's Gloves  Plastic Cloves  Rubber Gloves  Cloth Cap  Cloth Cap  Plastic Hood  Plastic Hood  Plastic Bootles  Rubber Boots  Safety Glasses	UMGOZ	GESPIRATORY, R  Half Mask  Full Face  Sup; fied Bre  SCBA  Chemical Ca  ADIOLOGICAL M  EQUIREMENTS  To Stan of job;  Full printer  Call printe	EQUIREMENTS attend Air mister IONITORING	RADIOLOGICAL MON  BADIOLOGICAL MON  Gamma Neutron Limitations  Radiological Monitor Si  BADIOLOGICAL MONI	ITORING REQUIRED ITORING PRE-IOB SI	YES NO
	Coverells  Tyvek Suff  Tyvek Suff  Pastio utit  Acid Suit  Surgeon's Gloves  Plastic Cloves  Rubber Gloves  Cloth Cap  Cloth Hood  Plastic Hood  Plastic Bootes  Tubber Boots  Sefety Glasses  Goggles	UMGOZ	ABBIRATORY. B LHalf Ma sk Sup; fied Bre Sup; fied Bre SCBA Chemical Ca ADIOLOGICAL M EQUIREMENTS To Start of job Tartory Continues Continu	EQUIREMENTS athing Air mister MONITORING UIREMENTS	RADIOLOGICAL MON  BADIOLOGICAL MON  Gamma Neutron Limitations  Radiological Monitor Si  BADIOLOGICAL MONI	ITORING REQUIRED ITORING PRE-IOB SI	YES NO
	Coveralis  Tyvek Suff  Tyvek Suff  Pastio uit  Acid Suit  Surgeon's Gloves  Plastic Cloves  Clork Cap  Clork Hood  Bootes  Plastic Hood  Bootes  Gloge Bootes  Googles  Googles  Face Shield	UMGDZ OQU	ADIOLOGICAL MEDITAL STATE OF THE PART OF T	EQUIREMENTS athing Air mister MONITORING UIREMENTS Imeter leter	RADIOLOGICAL MON  BADIOLOGICAL MON  Gontamination levels a  Gamma  Neutron Limitations  Radiological Monit of Si	ITORING REQUIRED  IITORING PRE-JOB SI  IITORING POST-JOB SI  IITORING POST-JOB SI  IITORING POST-JOB SI	YES NO
	Coveralis  Tyvek Suff  Tyvek Suff  Pasio uit  Acid Suit  Surgeon s Gloves  Plastic Cloves  Rubber Gloves  Cloth Cap  Cloth Cap  Cloth Cap  Plastic Flood  Plastic Flood  Plastic Booles  Goggles  Safety Glasses  Face Shield	URGOZ A	ABESPIRATORY. B L Half Mask Full Face Sup; fied Bre SCBA Chemical Car ADIOLOGICAL M EQUIREMENTS To Stars of job To Continue Extractive Doesing Ext	EQUIREMENTS athing Air mister MONITORING UIREMENTS Imeter leter	RADIOLOGICAL MON  BADIOLOGICAL MON  Gamma Neutron Limitations  Radiological Monitor Si  BADIOLOGICAL MONI	ITORING REQUIRED ITORING PRE-IOB SI	YES NO
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+	Coveralis  Tyvek Suff  Tyvek Suff  Pasio uit  Acid Suit  Surgeon's Gloves  Plastic Cloves  Rubber Gloves  Cloth Cap  Cloth Cap  Cloth Cap  Cloth Cap  Cloth Cap  Cloth Bootes  Cloth Bootes  Flubber Bootes  Safety Glasses  Geogles  Face Shield  Hard Hat  Hearing Frotection of  Taped Openings  CONTAMINATION CONT  VENTILATION REQUIRE	CHARLES AND LEGAL CO.	ESPIRATORY. B LHalf Ma sk Full Face Supr fied Bre SCBA Chemical Ca ADIOLOGICAL M EQUIREMENTS To Start of job To Double Extremit Double Extremi	EQUIREMENTS athing Air mister  CONITORING  UIREMENTS Imeter setor	RADIOLOGICAL MON  BADIOLOGICAL MON  Gamma Neutron Limitations  Radiological Monit of Si  BADIOLOGICAL MONI  Contamination levels ar  Gamma Neutron	ITORING REQUIRED  IITORING PRE-JOB SI  Ind Axtents  ITORING POST-JOB SI  Ind extent	YES NO
ŧ	Coveralis  Tyrek Suff  Tyrek Suff  Pasio uit  Add Suit  Surgeon's Gloves  Plastic Cloves  Rubber Gloves  Cloth Cap  Cloth Cap  Cloth Cap  Plastic Hood  Plastic Hood  Plastic Bootes  Rubber Boote  Safety Glasses  Geogles  Geogles  Taped Openings  Contamination Cont  Yentil Ation Recuires  Contamination Recuires  Contamination Recuires  Safety Glasses  Face Shield  Taped Openings  Contamination Cont  Yentil Ation Recuires  Safety Glasses  Face Shield  Taped Openings  Contamination Cont  Yentil Ation Recuires  Safety Glasses  Face Shield  Face Shield  Face Shield  Face Shield  Taped Openings  Contamination Cont  Yentil Ation Recuires  Safety Glasses  Plastic House  Safety Glas	CHARLES AND LEGICAL ROLL OF THE PROPERTY OF TH	ADIOLOGICAL MESURE SUPING Bree SCBA Chemical Car Supi fied Bree SCBA Chemical Car ADIOLOGICAL MEQUIREMENTS Control Start of job Control	EQUIREMENTS  athing Air  inister  MONITORING  UIREMENTS  Imeter  ineter  inete	RADIOLOGICAL MON  RADIOLOGICAL MON  Gamma Neutron Limitations  Radiological Monit of Si  RADIOLOGICAL MONI  Contamination levels ar  Gamma Neutron  Rediological Monitor Sig	ITORING REQUIRED  IITORING PRE-IOB SI  Ind extents  TORING POST-IOB SI  Indextent	YES NO
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E .	Coveralis  Tyrek Suff  Tyrek Suff  Pastio uit  Acid Suit  Surgeon's Gloves  Plastic Cloves  Rubber Gloves  Cloth Cap  Cloth Cap  Plastic Hood  Plastic Bootes  Face Shield  Hard Hat  Hearing Frotection of Taped Openings  Contamination Continent  Yentil Ation Recuires  Contamination Recuires  Co	CHARLES AND LEGICAL ROLL OF THE PROPERTY OF TH	ADIOLOGICAL MEQUIREMENTS Stan of lob Stan	EQUIREMENTS  athing Air  inster  CONITORING  IMPEMENTS  Imperiments  Incomplete  Incomplet	RADIOLOGICAL MON  RADIOLOGICAL MON  Gamma Neutron Limitations  Radiological Monit of Si  RADIOLOGICAL MONI  Contamination levels ar  Gamma Neutron  Rediological Monitor Sig	ITORING REQUIRED  IITORING PRE-IOB SI  Ind extents  TORING POST-IOB SI  Indextent	YES NO
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R	OCKY FLATS EXCAV	ATION PERMI	T. Control	一些特性。[12/13/1986]
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## **ROCKY FLATS EXCAVATION PERMIT**

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# ROCKY FLATS EXCAVATION PERMIT

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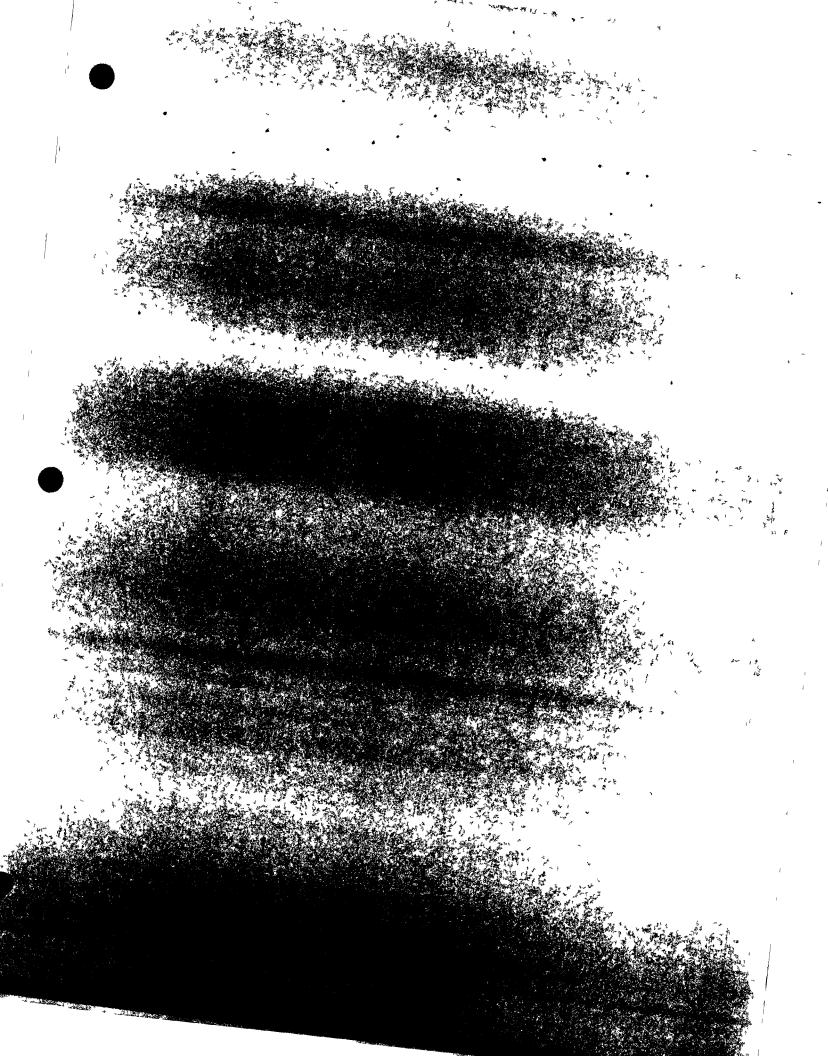
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Health and Safety Plan

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Section 1 Construction Work Health and Safety Plan

# LEGIG ROCKY FLATS

## INTEROFFICE CORRESPONDENCE

Date

May 14, 1990

RE-DR-003

To

J. P. Koffer

From

B. L. Lucero, H&S Engineering, Bldg. 130, x7744

Subject

RESUMPTION OF GARCIA CONSTRUCTION'S "REMEDIAL ACTION 881 HILLSIDE,

PHASE I", AUTHORIZATION #986147, CONTRACT #58923JK

On March 26, 1990, a Construction Notice was written to stop work on this project. Garcia Construction's employees did not have the required OSHA training, health examinations, respirator training and respirator fit tests, in order to comply with Rocky Flats Health & Safety requirements and plant policies. In addition, Industrial Safety had commented on the Accident Prevention Proposal provided by Garcia Construction, and these issues had not been addressed or resolved.

As of May 11, 1990, the contractor has completed all the necessary requirements to comply with RF rules and regulations. The items noted by Industrial Safety on the Accident Prevention Proposal have been resolved to the satisfaction of D. Burkhart of Industrial Safety. In addition, the Job Safety Analysis provided by Garcia Construction has been signed off by Industrial Safety.

The contractor has met the requirements of the HS&E Manual, Section 24.01 3.2.3.(3) and the general provisions of the construction specifications and is therefore cleared to resume construction.

The records of Garcia Constructions' employees will be kept by Construction Management (Ike Duran).

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#### Distribution

W. M. Bruniga

D. E. Burkhart

I. Duran

L. M. Grocki

J. M. Kersh

R. F. Martinez

P J. Sunnewick

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11 May 90 EXD approved as corrected

January 01, 1990 Contract #58923JK

#### ACCIDENT PREVENTION PROPOSAL

FOR

REMEDIAL ACTION 881 HILLSIDE AREA PHASE I **BUILDING 891 FOUNDATION** ROCKY FLATS PLANT

#### 1. OBJECTIVES

- A. This proposal is to be supplemented by the Specifications Section pages 1140-1 thru 11409-7, and Army Corps of Engineer Manual EM 385-1-1, AND OSHA 24 CFR 1926 and 1910
- B. The information in this document, is intended to be the major source for the Health, Safety and Fire Prevention Program of Jose Garcia Construction, Inc. (Contractor) It cannot be assumed that every conditional safety procedure is included or that abnormal or unusual circumstances may not require modification or additional procedures.
- C. In the event that there is a conflict between this document and Federal, State, or Local laws which apply to the work, the more stringent will apply.

#### 2. Mandatory Requirements

- A. Safety galsses shall be worn in all construction, fabricating and testing areas. Safety shoes shall also be worn when performing construction, installation or inspection of any system. system.
- MEET ANSIZEP, 15705 AND SHALL B. Hard hats shall be worn in all areas, and at all times. Any visiting personnel shall also be required to wear hard hats while in the construction areas, and it is the responsibility of the Contractor and subcontractors to see that this requirement is maintained
- C. Smoking is permitted only in designated areas.
- No metal ladders will be allowed for construction or instal lation of any electrical work, device, or service. Metal ladders will not be allowed where there is a possibility of their coming into contact with any electrical device. ladders shall meetyEH 385-1-1 requirements, and their use OSVA AND

shall follow manufacturers recommendations.

- E No welding, cutting, flame or spark producing equipment will be operated without specific owner permission and or permits as may be required. A portable fire extinguisher shall be readily available to any personnel using the above equipment. All welding and/or cutting shall be stopped at least 30 minutes prior to personnel leaving the jobsite, and a fire watch shall be maintained during that time
- F. Canvas or paper tarpaulin: or drop cloths are strictl prohibited.
- G. All electrical tools must be grounded as have ground interruptions.
- H. All work performed in the vicinity of high voltage power distribution and/or Buss Bar distribution shall be consucted in accordance with Section 15.1. of EM 385-1-1 AND CSHA 39CFR /926 and SER CONTRACT REQUIREMENTS.
- I. All mobile cranes with cable supported booms shall be equipped with boom stops to resist the boom falling backwards. Boom stop certification must be submitted and approved along with evidence that the crane shall have imposed a 'boom hoist disengaging device'. All cranes shall be load tested and witnessed by Corps of Engineer parameter prior to use on this work. Clauses shall have rune approach prior to use on this work. Clauses shall have rune.
- J. Use of nuclear densometers must have prior approval from the COR, and permits shall be obtained, before their we.

#### 3. DEFINITIONS

- A. Supervision by the 'Contractor' shall mean the Company Management, Project Engineer, Installation Supervisor or Service Technician in the employment of Jose Garcia Crastruction, Inc. Pra douglast Specifications.
- B Subcontractor shall be deemed to be any contractor, siplier, or person which has a contract with Jose Garcii Construction, Inc., and will be required to perform with deliver material or inspect any portion of the installation or service provided on the project.
- C. The words will, shall, or must are considered to mear nandatory requirements.
- D The word <u>should</u> is a strong recommendation, and shall be followed if at all possible.

#### 4. OFGANIZATION

A The Mr. Paul Covarrubias will function and Safety coordinator for the project. He will be responsible for the imple antation of this Accident Provention Plan. He shall receive the many according with packs 1710.

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- B Mr. Paul Covarrubias shall have the authority to correct all unsafe job conditions, and/or restrict his construction employees or subcontractors from working in unsafe areas, or in an unsafe manner. In the event that the Job Supervisor deems the project area unsafe, he will notify the Contracting Officers Representative immediately and the offices of Jose Garcia Construction, Inc. Appropriate action shall be taken to correct the unsafe condition prior to resumption of work at the project site.
- C. Prior to commencement of onsite construction, the supervisor will conduct a pre-construction safety meeting. The following personnel shall attend this meeting:
  - 1 All subcontractor jobsite cupervisors
  - 2. All Garcia Construction employees assigned to this project.
- D. Also prior to commencing any work in any Phase (Specification Section), the subcontractor or supplier shall take part in a Quality Control Prepatory Phase Meeting During this meeting between the Quality Control Supervisor, Mr. Thomas Buck, the Corps of Engineer representative, and the Subcontractor performing that specific phase of work, the submittals still outstructing, the fermits required, procedures, and Phase Safety Plan will be discussed The Phase Safety Plan is required from Str Subcontractor for presentation at this meeting for toview and comment. Its content should describe areas of work, the largards involved with that work, and the precautions that will be implemented to avoid accidents and injury in the perfomance of that work. (See attached Samples). This Plan will be reviewed by all parties for proper awareness of the hazards that could arise.

#### 5. IMPLEMENTATION AND TRAINING

- A. An effective system of indoctrination and education of ell personal and employees in safety and loss prvention is expected of each subcontractor. Subcontractors shall inform their employees of all safety procedures before starting work on the job. Any new employees will be so instructed prior to starting work on the project. Subcontractors shall keep written records of this safety meeting
- **B. The Superintendant/Safety (coordinator, Mr.Paul Covarrubias, shall use a regular procedure of site inspection to observe and have corrected any hazardous conditions, safety rule violations and unsafe working practices. This procedure shall be adjusted to conform to project changes or new hazard developement.
  - C. Regular meetings will be scheduled by the Supervisor with

all subcontractor supervisors to discuss job progress, past safety records, anticipated work requirements for work to be performed before the next scheduled meeting. These scheduled meetings will take place every Monday, 12:30 p.m. PM, at the Supervisors field offices.

D. Weekly "tool box" safety meetings of at least (5) five minutes shall be conducted by the Supervisor for all Garcia employees and any subcontractor personnel working on the jobsite at that time. Attendance is mandatory for all personnel working on the jobsite, and will be held every Monday at 9:00 AM at the Supervisors field offices.

### 6. EMERGENCY PROCEDURES

- A Personal Injury Accidents
  - 1. The superintendant shall see that all injured personnel receive first and attention immediately. By Communication X29//
  - 2. An ambulance shall be called in any case that requires emergency help (Doctors, Y-Rays, medical facilities). In case of medical emergencies, personnel will be transported to ST. ANTHONY HOSPITAL NORTH

2551 West 84th Avenue Westminster, CO 80030 EMERGENCY ROOM TELEPHONE (303) 426-2020

- A company vehicle may be used in lieu of an ambulance if the injury is not of a scrious nature or remote jobsite location predicates this mode of transportation to save time. <u>CAUTION!</u> The driver of the vehicle shall be cautioned to observe spend limits, traffic signs and drive safely to prevent a second accident. This is not making the poor and the poor and the poor and the poor was the poor and the poo
- B. Chemical Exposure Eye wash Status SHALLE SETUPIONEN DEPLICE TO CHEM
  - 1. In the event of chemical exposure or contact, immediately wash the eyes and/or the affected parts of the body thouroughly with potable running water. Continue washing for at least (15) fifteen minutes or until medical aid arrives.
  - 2. If illness from inhalation occurs, remove the person at once to fresh air and call for an ambulance. <u>CAUTION'!</u> Precaution should be taken to prevent exposure by first aid personnel, or other unaware parties

#### C. Fire

- 1. Call Fire Department@x2911
- 2 The superintendant shall see that all anjured personnel receive first and attention immediately
- 3. Notify the Home office of Gardia Construction by telephone as soon as possible to report the incident.
- D. Jobsite Emergencies
  - 1. PREPLANNED PROCEDURES SHALL BY ISLAPLISHED WITH JOBSITE

PERSONNEL TO INSURE PROFER ACTION IN THE EVENT OF CUSIO-MER OR END-USER REQUIRING EVACUATION, ALERT, OR MAJOR PLANT DISRUPTION OR DISASTER. THESE PROCEDURES SHALL PERFORMED WITH ALL EMPLOYIES AND SUPCONTRACTOR PERSONNEL PRIOR TO STARTING WORK ON THE PROJECT THESE PROCEDURES HAVE BEEN DISASTED AT THE PROJECT.

## 7. ACCIDENT REPORTING AND INVESTIGATION

- A. The superintendant shall be responsible for recording and reporting all injuries and illnesses to the home office, in accordance with Part 1904 Title 29, or 0 S.H.A
- B. All subcontractors shall immediately report all injuries and illnesses to the Project Supervisor.
- C. All employees shall immediately report all injuries and illnesses to their foremen or supervisor.
- D. All accidents or injuries chall be thoroughly investigated, the cause determined and appropriate action initiated to prevent the recurrence of the cause. Full documentation shall be submitted to the cause and the home office of Garcia Construction.
- E. EG & G Rocky Flats, Inc. will be notified immediately of any accident that requires medical attention, or lost time.

## 8. FIRST AID AND MEDICAL FACILITIES

A. First aid kits and/or first aid stations will be furnished. A list of available area physicians, hospitals, emergency rescue services, and ambulance services, including phone numbers, will be posted in all construction areas, and will be maintained by the Project Supervisor.

#### 9. PERSONNEL

- A. All persons employed to work on the project should be physically qualified to perform their assigned duties. No person shall be permitted to work or shall be required to work while he is physically or mentally impaired by fatigue illness, or any other cause to a degree that he or others could be exposed to injury or a histardous situation.
- B. Horseplay of any kind will not be telerated.
- C. Employees shall not use unrate thertenta to save it tow steps.

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- D. Possession or use of into relating beverages or recotics while at the jobsite and/or reporting for work wile still under the influence of same is strictly prohibital.
- E. An employee must have been instructed in the profer and safe use of any mechanized equipment prior to his assignment to use such equipment. He shall not operate my equipment for which he has not been previously trained.

## F. Protective Equipment

- Safety glasses are mandatory while working in, on or around any manufacturing, production, construction, or power operated equipment such as grinders, power saws, drills and brushes. They shall also be worn while installing equipment.
- 2. Safety shoes shall be worn on all installation and movement of equipment, and during all construction activities.
- 3. Hard hats are to be worn by all employees, subcontractors, testing personnel, delivermen while out of their vehicles, and all visitors while inside the construction area.
- 4. Ladders mounted on an elevated pintform shall not be located closer than (10) ten feet to the nearest edge unless the ladder is adequately anchored and selety belts are worn, with LIFE LIKES.
- 5. Special protective equipment will be determined by job conditions and may include but not be limited to goggles, gloves, special clothing, breathing apparatus, full face shields, noise control devices, etc.

## 10. PROJECT FACILITIES

- A. Sanitary facilities will be provided and regular maintained at the construction site.
- B. Potable water will be available at the construction site.

#### 11. FIRE PREVENTION

The same state of the same of

- A. The only acceptable standard on all areas of the roject jobsite shall be excellent housekeeping. (See Setion 12).
- B. Accumulation of trash, only rage, combustible marrials, shipping containers, and materials of similar narre will not be permitted.
  - C. The area around, including under and over weldin and burning operations shall be kept free of hoses, t bles and flammable or combustible materials of any nature
  - D. Canvas and/or paper drop clothe and tarpauling w_ t not be used for protection during welding or burning.

the same that the same of the

- E. There shall always be an adequate clearance of urrestricted passage to fire hydrants, extinuishers, hose racis, control valves and other emergency equipment
- F. Temporary storage of any construction flammable materials must be in a location and manner approved by the Contracting Officers Representative.
- G Flammable, corrosive or total materials will not re-allowed in any sewer or similar waste disposal system. Proper disposal shall be arranged by the superintendant.
- H. Welding and cutting cylinders shall be secured in a vertical position and shall not be left overnight with the regulators attached. Protective caps whall be in place when these cylinders are not in use
- Adequate ventilation must be provided when cleaning agents are used. Only the use of non-flammable cleaning agents will be permitted. Extra precaution is needed when chlorinated solvents are used in the presence of hot surfaces or ultra-violet rays (welding), AND WILL BE CONDUCTED WITH THE Proper excups Ind. May, 670.
- J. Volatile materials shall not be applied near an oten flame or welding operation. If such material is to be used in a confined or poorly ventilated area, explosion proof lights and non-sparking tools shall be used.

#### 12. HOUSEKEEPING

- A. Excellent housekeeping practices are essential to this safety program to prevent accidents, injury or fires.
- B. It shall be mandatory that all spills be cleaned up immediately.
- C. Storage of cardboard containers or other combustible materal shall be in an open approved area.
- D. All scrap, combustables, and flammable material shall be removed from the jobsite dealy and be disposed of an an acceptable manner.
- E. Scrap pipe, conduit, wire, cable, etc., shall be claced in a specific container at the cutting and threading location.
  - F. Dust and debris shall be contained in a manner that will prevent damage to equipment, machines and hardware already installed at the jobsite. Framples are data processing centers, tape storage vaults, telephone switch rooms machine operations, etc.

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G. SECULITURA OF HOSE MANTERIAL AND MEETING THE PLANT REQUIEMENTS

13. MATERIAL HANDLING AND STURAGE POL CONTRACTOR SPECIFICATIONS

FOR WINDS PROCEDURES.

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- A Installation supplies such as A.5 C. (Agent Strage Containers) shall be stored in an area that is no subject to vehicular traffic. They shall be stored in a conner that will prevent falling, tripping, or rolling, as shall have anti-recoil plugs and/or protective caps in place.
- B. Equipment used to move, load, unload and install brackets and A.S.C. shall be designed to adequately harde the loads required. Storage container weights and agent eights are recorded on vessel record tags attached to the container.
- C. Electrical releasing devices are to be properl identified and stored in a location accessible to only authorized personnel. A record of the lot number, date of manufacture, date of installation, location of installation and quantity shall be maintained. These records and devices shall be handled and installed by only personnel that have been properly trained in their use and installation.
- D. Conduit and pipe storage shall be in a manner and location that will prevent it from falling, rolling, or subject personnel to tripping over it and/or colliding with it.
- E. Installation supplies shall be stored in a man'er that they will not be subject to falling. These supplies are frequently shipped in cardboard containers and has combustible packing; therefore, they must not be store: in an area where they may be subjected to fire or excess: a heat.

## 14. ELECTRICAL WIRING AND APPARATUS

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- A. Personnel must be fally qualified to work on cintrol panels, circuits, and electrical apparatus. They must be most familiar with the manufacturers requirements and local electrical codes.
- B. Electrical installation shall be in conformance with Local.

  and National Codes applicable to the project, PR TECK Specifical REQUIREMENTS.
- C. Temporary electrical installation shall confor to EN 365 NGC.

  1-1 requirements, and shall have ground fault interruption,
  or a grounded circuit. All devices shall confirm to the
  manu-facturers voltage ratings and configuration.
  Distrubution boxes shall have the maximum operating voltage
  plainly marked on the exterior.
  - D. Temporary wiring shall not be placed at an eleation or location that will subject it to vehicular traffic or any moving equipment or machinery.
  - E. Work in the vicinity of high voltage lines and buss bars shall be conducted in accordance with BM 165 ... Section 03442 NEC. Required 5.

of the second se

# Section 2 Drilling Health and Safety Plan

## ADDENDUM 1 TO THE 881 HILLSIDE GEOTECHNICAL INVESTIGATION HEALTH AND SAFETY PLAN

On March 26, 1990, the Environmental Protection Agency (EPA) conducted a performance audit of activities on the 881 Hillside Geotechnical Investigation. As a consequence, the site specific 881 Hillside Geotechnical Investigation Health and Safety plan has been modified and/or clarified. The modifications and clarifications presented herein supercede the relevant portions of the existing plan.

#### **DUST SUPPRESSION**

Under Section III A.1 of the 881 Hillside Geotechnical Investigation Health and Safety Plan, engineering control methods for suppression of dust include wetting soil during drilling operations. The need for dust suppression will be evaluated in areas where above background radioactivity is encountered by surveys conducted by EG&G Radiation Monitoring or personnel. Decisions to conduct dust suppression in these areas will be based on weather conditions at the time of drilling and an inspection of the soil for moisture. Snow cover, wet soil, or frozen soil will preclude the need for water spraying, since dust generation is minimal under these weather conditions. To date, natural soil conditions have been adequate to naturally minimize airborne dust and no areas of above background radioactivity have been encountered.

## **DUST MONITORING**

The site specific 881 Hillside Geotechnical Investigation Health and Safety Plan calls for the use of a Mini Ram total dust monitor to assess field personnel exposure to airborne radioactive particulates. Real time radiation monitoring instrumentation capable of measuring maximum permissible concentrations (MPCs) for the radionuclides that may be encountered at the 881 Hillside site does not exist. However, a reasonable "assumption can be made that the radionuclides will be attached to soil particles if they are present. Therefore, when site conditions are such that above background levels of radioactivity have been encountered and resuspension of dust is possible, water spraying will be initiated, and a real time dust monitoring program will be conducted. The action level for upgrading to level C was established using the MPCs for plutonium,

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Rage 1

americium and uranium, DOE's Order 5480 11 and 10CFR 20 Table II MCPs are the maximum allowable release limits from an unrestricted area. If a real time dust monitoring program becomes necessary a Mini Ram will be placed at each drilling rig

## RADIATION MONITORING

The use of Radiation Monitoring Equipment is described in Section IV A.1 in the 881 Hillside Geotechnical Investigation Site Specific Health & Safety Plan. Two types of radiation monitoring devices will be used during drilling activities; the GM-pancake (\$\rho\$, \$r\$ detection) and an \$\rho\$ scintillometer (\$\rho\$ particle detection) Radioactive material is generally in surface and shallow subsurface top soil. Therefore, radiation monitoring should be conducted while drilling (augering) to bedrock. As an added precaution, bedrock coring operations will also be monitored for radioactivity. Continuous monitoring during drilling is required in all areas where above background radioactivity is encountered. Readings above 3X background warrant evacuation and notification of EG&G and the Regional Health and Safety Officer. Radiation monitoring will be conducted under the guidance of the 881 Hillside Geotechnical Investigation Site Safety Officer.

#### HEALTH AND SAFETY TRAINING PRIOR TO FIELD ACTIVITIES

Prior to February 2, 1990, 881 Hilliside drilling activities began, radiation health and safety training was given to project personnel on January 15 and 29, 1990. Radiation Health and Safety training was presented by Frank Kabot - Rocky Mountain Operations Regional Health and Safety Officer. The first two-hour session was presented on the 15th of January 1990. The agenda is included as Attachment 1 and subjects covered include radiation theory, ionizing radiation, radiation characteristics, radiation detection and units of measurement, and exposure. The second two-hour training program, given on the 29th of January, addressed instrument operation, instrument application to sample types, and instrument calibration using calibration sources.

To date, no above background radioactivity or organic vapors have been detected in the 881 Geotechnical Investigation. EG&G radiation protection personnel and Health and Safety personnel have conducted daily monitoring.

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Page 2

## DAILY HEALTH AND SAFETY SUMMARY FORMS

In order to assist in organizing Health and Safety records of the 881 Hillside Geotechnical Site Investigation, Daily Health & Safety Summary forms shall be used. These forms contain important health & safety information which shall be documented by each drilling rig crew. Personnel working on the drill rig shall be responsible for completing the form. At the end of the day, the site Health & Safety Coordinator is responsible for consolidating each crew's form into one composite form (saving originals). The site Health & Safety Officer will then post a copy of each daily form in the field trailer and provide the EG&G Environmental Restoration field supervisor with the original daily form. Backup information (logbooks, calibration forms etc.) will be attached. Attachment 2 provides a copy of the Daily Health & Safety Summary form and the instructions for its completion.

Page 3

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# SITE HEALTH AND SAFETY PLAN (HASP) FORM

	Prepar L	ed By: 7. SARREST FRANK -T.KI General Information	Date 01.08 90 WO.# 202 9BOT	9.33.09
	A.	Project Identification		
	ì.	Division &	2. Department/Office Dervoet	re_
	4	Site Name 981 Hillsies	5. Client EG & 6	
	6.	Work Location Address	hea is focated.	on the south si
	B. 7	Sile History location	are along the first	pose trende drain
	Une	Describe briefly: the	following Solid lo	ale Mangarren
	Cil.	Scope of Work Zul	Quid Site Liguid De	mome Site Outres
	1.	Describe briefly:  GEOTESCHWICH! BE	9	well constavesion
			N OF FRENCH BRAIN	
4	() Si	te Visit only. Site HASP not	necessary, list personnel here & sig	n-off below:
	D.	Hazard Assessment and Re	eulatory Status	
وخما	1	Chemical - Levels (w) >TL	types of hazards anticipated. (*)   V-TWA, (*) >TLV-STEL, (*) >IDL! Construction type; ( ) Industrial type	H, (M) Bio-Hazards; (Y)
7	2.	Site Regulatory Status: <u>CE</u> (y) U.S. EPA, (y) State; O Other Fed. Agency - (y) D Assessment and Regulatory	RCLA/SARA - (*) U.S. EPA, (*) State SHA - (*) 1910, ( ) 1926, ( ) State OE, ( ) USATHAMA, ( ) Air Force Status, determine the Standard HA ich Standard Hasp will be used and a with the Standard Plan.	; <u>NRC</u> -(y) 10 CFR 20; e; Based on the Hazard SP(s) applicable to this
	<b>3.</b>	Standard Plan to be used: Industrial Hygiene ( ) L NRC/DOE ( ) USATHAL	( ) Stack Test ( ) Air Emissio ife Systems ( ) Hazardous Mat. MA ( ) Air Force	ns () Asbestos () () Construction ()
	"D.	Review and Approval Doc	umentation	
	1	Reviewed By: a. P.M. b. P.D. b. P.D. c. DSO/RSO d. SHSC	t) lyde	Date: 24 January 1990 Date: Date: Date:

a annual Burni		about	Date: 29/on 19	00
2. Approved By: ( ) a. Cosperate/i ( ) b. DSO/RSO	leaith and Safess Dis Only with specific d	ector (CHSD) elegation by CHSI	Date: Of Jour / (	70
Project Start Date: or End activities conducted after	Date: 12.31.70  Date 12.31.70	HASP must be R	eissued/Reapproved for any	
Amendment Date(s) i.	2. 3.	4.	5.	
E. KEY PERSONNE	L/IDENTIFICATIO	OF HEALTH A	ND SAFETY PERSONNEL	1
10 Key Personnei				
The following personnel	and organizations ar	e key to the activi	ties at this site.	
EPA Representatives				1
Organization/Branch	Name/Title	Address	Telephone	ļ
_				,
				1
				_
Roles and Responsibiliti	es:			
Time Harden	1			4
Other EPA Contractors	k Subcontenetore			1
Office Li A Commission	A CONTRACTOR OF THE PARTY OF TH			
Organization/Branch	Name/Title	Address	Telephone	
_				
				1
t				
The state of the s	* * * * * * * * * * * * * * * * * * * *	,		
	- <b>1</b>			

## Roles and Responsibilities:

## Other Regulatory Agency Representatives

Organization/Branch

Name/Title

Address

Telephone

Roles and Responsibilities:

## WESTON Representatives

Organization/Branch Name/Title Address Telephone

ECON Bert Hyde/PM 303 980 6800

Namet Marks/Site Mor

Queg Sherman/Greatech Task Mor

Scott Yoshino/Site Safety Coordinator

. _ Roles and Responsibilities:

Bert Hype - overall project responsibility

Lanet Marks = responsible for daily project

activity of field crew and

subcontractors.

Tom Barrett - Responsible for ou site health a safety

Scott Yoshino -

## (WESTON Subcontractors)

Organization/Branch

Boyles BROTHERS LAR HIGH	15865 N. 5th AVE. GOLAUT, CO GO401
2) OHEST AND ASSOC. 3) SALAZAR Roles and Responsibilities: 1) ARMING	Ple Go. Zuni St. Borvier CO SOZZS
Z) GEFORECHNICAL OVERSIGHT O	of DRILLING ACTIVITIES
2.2 Site Specific Health and Safety Perso	anci
The SHSC for activities to be conducted at t	his Site is Thomas Brewn Scon Yosum
The Site Health and Safety Coordinator (SH: provisions of this Site HASP are adequate as	SC) has total responsibility for ensuring that the aid implemented in the field.
Changing field conditions may require decis programs. Therefore, the personnel assign additional training requirements specified b	nions to be made concerning adequate protection need as SHSC's are experienced and meet the by OSHA in 29 CFR 1910.120
Qualifications:	
40 Hour	OSNA Traum Shour Refresh
Shour Site So Designated alternatives include:	OSNA Training 8 Hour Refreshers fety Coordinator, CPR & First Aid
II. Health and Safety Evaluation	
A. Hazard Assessment	

<u>Address</u>

Telephone

Name/Title

i. Background Review: Complete (X) Partial ( ) If partial, why?

See Allachment 1

2.	Activ	ities Covered Under this Plan
No. 09	Task/ Geo Fre Dri	Subtask Description Schedule Begin 2944  Technical Investigation of 881, Hillside Area where  nich Drain will be Installed. Activity Includes  illing and Geotechnical Sampling and Logging
3.	Types	of Hazards: (Place a Y/N in each () to indicate presence/absence of hazard)
	a.	PhysioChemical K Flammable () Explosive () Corrosive () Reactive () O ₂ Rich () O ₂ Deficient [1]*
		Chemically Toxic Inhal. Ingest. () Cont. () Absorb. () Carcin. Mutagen () Terat. () OSHA 1910 1000 Substance () OSHA Specific Hazard. Sub Standard, Describe
	ъ	Biological () Etiol Agent () Other - Plant insect, animal, [2]*
	c.	Radiation Ionizing - ( ) Internal Exposure ( ) External exposure [3]* Non-ionizing - ( ) UV, ( ) IR, ( ) RF; ( ) Microw; ( ) LASER
• The	d.	Physical Hazards () [4]* e. Construction Activities () [5]*  Drilling, heavy equipment er in the [] refers to one of the following hazard evaluation forms. Complete
hazar	d evalu	tation forms for each appropriate Hazard Class.
B.	Sourc	e/Location of Contaminants and Hazardous Substances
1	Direc	tly Related to Tasks
2	X A O	ther Surface ( ) Soil  ( ) S. Water  ( ) Other
2	Indire	ectly Related to Work, - Nearby Process(s) which could affect team members:  Applicable lient Facility; ( ) Nearby Non-client Facility. Describe:

[1]	Chen	nical Ha	zards ,				
[a]	solut hazai	Identify and attach Material Safety Data Sheets for all reagent type chemicals solutions or other materials identified as or which in normal use could produce hazardous substances used in performing tasks related to tasks related to this project N/A					
[b]	Chen	nical Con	ntaminants o	of Conce	ern()N/A If	present, provi	de following data
Haza Subst Tasks	ance/	Physic Chara	cal Propertic cteristics*	es and	Limits	Route(s)of Exposure***/ Symptoms	Monitoring / Instruments/IP+ % Response
		(*	) State				
	7、	pH	FP	LEL	UEL_		
		<b>7</b>	[gF	3P	MP		
			atible with				
		7					
		Sp.Gr	O	- Var	o.D		
		Vap.P		H2	0 Sol	<del>_</del>	
		Oth					
<del></del>	, rd	ु (*	) State		2		
ar i Pari		pH	FP	LEL_	U.57		
	, . ,	Auto.l	[gF	BP	MP		
ستثثر	7 3	Incom	patible with	-	1		
		Sp.Gr		Var	D		S
		Vap.P		H2	0 Sol		
		Oth					

( ) Client briefing arranged.

Application -

• E = Explosive, F = Flammable, C = Corrosive, R = Reactive, W = Water reactive, O = Oxidizer, Ra = Radioactive. State = Normal physical state at site/proj temp.

** Use lowest of two, if no TLV/PEL, use Toxicity data in following order: Lowest Toxic Conc. in humans (LTC-HMN), Lowest Lethal Conc. in humans (LLC-HMN), Lowest Toxic Dose in humans (LTD-HMN), Lowest Lethal Dose in humans (LLD-HMN), LC₅₀ or LD₅₀ in humans, the Lowest Toxic Concentration or Lowest Toxic Dose in animals, the lowest LC₅₀ or LD₅₀ in animals.

*** I = Inhalation, G = Ingestion, S = Skin Absorption, C= Contact, D - Direct Penetration

## † IP = Ionisation Potential [1] Chemical Hazards

Hazardous

Physical Properties and

[a] Identify and attach Material Safety Data Sheets for all reagent type chemicals, solutions or other materials identified as or which in normal use could produce hazardous substances used in performing tasks related to tasks related to this project.

( ) N/A

Exposure

Route(s)of Monitoring

[b] Chemical Contaminants of Concern () N/A If present, provide following data.

Substance/ Tasks	Charac	teristics				Symptoms Symptoms	% Response
	(*	) State_					
	pH	_FP	I	LEL	UEL_		
7	uto.le		_BP _	·	MP	<del></del>	
	Oh	gtible w	th -				
•	1						
	Sp.Gr_	B		D.D.		<del></del>	
	Vap.P_		4	H20 Sc	1	<del></del>	
	"Oth	7		N A		-	
	· (*	) State				• .	
* "24 ( +	pH	_FP	<u>"</u> ]	LEL	EL_		
	Auto.lg		BP _	,	MP	7 1	7
	Incomp	atible w	ith -				
,						•	
		······································				•	<b>7</b>
	Sp.Gr_			_Vap.D_			
	Vap.P_	× 4		_H20 Sc	l		
	Oth	į				<del></del>	

- E = Explosive, F = Flammable, C = Corrosive, R = Reactive, W = Water reactive, O = Oxidizer. Ra = Radioactive. State = Normal physical state at site/proj. temp.
- Use lowest of two, if no TLV/PEL, use Toxicity data in following order Lowest Toxic Conc. in humans (LTC-HMN), Lowest Lethal Conc. in humans (LLC-HMN), Lowest Toxic Dose in humans (LTD-HMN), Lowest Lethal Dose in humans (LLD-HMN), LCso or LDso in humans, the Lowest Toxic Concentration or Lowest Toxic Dose in animals, the lowest LC_{so} or LD_{so} in animals.
- *** I = Inhalation, G = Ingestion, S = Skin Absorption, C= Contact, D Direct Penetration

† [P = Ionusation Potential
[2] Biological Hazards Of Concern

Task (Y/N)

Location/ Source

Route of Exposure

Team

Member(s) Immunization

No. Hazard

No.(s)*

(K,S)**

(I,G,C,D)+ Allergic? Required?

- Poisonous Plants ()
- Insects
- Snakes, Reptiles (
- Animals
- Sewage
- Etiologic Agents () (List)
- List all task Nos. which would involve potential exposure to these hazard(s)
- K = Known, S = Suspect. + I = Inhalation, G = Ingestion, C = Contact, D = Direct Penetration (Bite, Inject., Open wound or sore)
- [3] Radiation Hazards of Concern

**TYPE** 

DOE Order 5480.11 10CFR 20 Table 11

...l. Lonizing

Radionuclide

Location/ Type Source Emiter

Task No.(s) : Limits

Exposure

Protection Protocol Reference

Pu 238,239,240 soil a, gamma

soil d, gamma 09 2x10-12

soil d, gamma 09 2,x10-11 (DOE) electron 3,x10-12 (10GR)

2. Non-ionizing

N/A

Protection Location/ Type Exposure Protocol Radionuclide Source Emiter Task No.(s) Limits Reference Ultra Violet Infra Red Microwave Radio-Frea. **LASER** [4] Physical Hazards of Concern Hazard Task Protection OP(s) (Y/N) No.(s) Attached I. Noise 2. Heat - ambient air - Hot Process - Steam - Hot Process - LT3 - Hot Process - Incin. 3. Cold 4. Rain 5. Snow 6. Electric Storms 7. Confined Space Entry 8. "Hot Work" 9 Heavy Manual Lifting/Moving Je 10 Rough Terrain 11. Housekeeping 12. Structural Integrety 13. Neighborhood 14. Remote Area 15. Compressed Gases 16. Diving 17. Using Bosts 18. Working over Water 19. Traffic 20. Explosives 21. Heavy Equipment Operation 22. Lifting Equipment Operation. - Cranes. - Maniifts 23. Working at Elevation 24. Using Ladders 25. Using Scaffolding

	Hazard (Y/N)	Task No (s)	Protection OP(s) Attached
* <u>-</u>	(-//	110 (3)	Attached
26. Excavating/Trenching	()		
27 Materials Handling	Ö		
28. Haz. Mat. Use/Storage - flam.liq./gases	$\ddot{\mathbf{O}}$		
- oxidizers	()		
- COTTOSIVES	()		
29. Fire Prevent/Reponse plan required	()		
30. Fire Extinguishers required	<b>64</b>		
31 Demolition	()		
32. Utilities - Underground	()		
- Overhead	()		
33. Electrical - General	()		
- High Voltage	()		
34 Welding/cutting/burning	()		
35. Hand tools	()		
36 Power Hand Tools	()		
37 High Pressure Water	()		
38 Other DrillmHezards	<b>∞</b>		
39 Other	()		
40 Other	()		

#### TASK BY TASK RISK ANALYSIS

The preceding Tables identify the hazards known or suspected to be present in accomplishing the tasks involved in this project.

Section II A 2. of this HASP describes the background of this site/project and identifies the tasks involved.

Below briefly describe each task and the likelihood of exposure to the hazards identified and the protective protocols to be used.

Drilling and gestechnical logging will be performed along the proposed location of the french drain, No drilling will take place in the identified SWMUs. Work will be performed in Level D (modified)

#### III. Personnel Protection Plan

#### A. Engineering Controls

1. Describe Engineering Controls used as part of Personnel Protection Plan.

Task(s)
09 Dust suppression will be accomplished by welling
soil during drilling operations.

#### B. Administrative Controls

į	i. 1	Describe	Adminis	trative	controls	used as	Dart	of	Personnei	Protection	Diana
		_		4-						v v orecitoff	rian:

Taskis) All personnel will have OSHA training and medical certification,

## C. Personnel Protective Equipment •

## 1. Action Levels for Changing Levels of Protection

(1) Task No.(s) Define Action Levels for up or down grade for each task Transport BREAD

OP Any REMAINS ABOVE BACKBROWN WILL

RESULT IN UPGRADE TO CORREL C. REMAINS

EMCOUNTERED ABOVE 5 UNITS IN THE BREATHING

ZONE WILL RESULT IN UPGRADE TO LEVEL B.

C. Description of Levels

Task(s)	_09			
	Level D	Level D		
Head	At Harry	()		
Eye & Face	H SHOTY GLASSES WITH	()		
Hearing	()	()		
Arms & Legs only	()	()		
Whole Body Apron	Of Tyroze Counalls	()		
Hand - gloves - gloves - gloves	()	()		
Foot - Boots - Boots - Boots	H BOOF COMES	()		

Task(s)	09	
	Level C	Level
Head	* Hard Hat	
Eye & Face	* Hard Hat + Sufety Glasco	()
Hearing	()	()
Arms & Legs only	()	()
Whole Body Apron	AS TYVET-Coveralls	()
Hand - gloves - gloves - gloves	(of Cotton work-Gloves/sine (f) NITEILS OUTSE Gloves	<b>24</b> ) () ()
Foot - Boots - Boots - Boots	H Boor Covers	() () ()
APR - Neg. Pres. Half Face	() *-	()
Cart./Canister	13	()
Full Face	of	()
Cart./Canister	# 6mc-M	()
PAPR	()	()
Cart./Canister Type C	()	()
SAR - Airline	()	()
SCBA	()	()
Comb. Airline/SCBA	()	()
Cascade Syst.	()	()
Compressor	()	()
Fall Protection	()	()
Floatation	()	()

Task(s)		
	Level	Level
Head	Ó	()
Eye & Face	()	()
Hearing	K	()
Arms & Legs only	0	()
Whole Body Apron	8	()
Hand - gioves - gioves - gioves		() () ()
Foot - Boots - Boots - Boots	()	() () ()
APR - Neg. Pres.	()	()
Half Face	<b>()</b>	()
Cart./Canister	()	\ ()
Fuli Face	()	$\setminus$ 0
Cart./Canister	()	N
PAPR	()	()
Cart./Canister Type C	()	()
SAR - Airline	'。() , ,	(iž ()
SCBA	()	$\sim$ 0
Comb. Airline/SCBA	()	()
Cascade Syst.	()	()
Compressor	()	()
Fall Protection	()	()
Floatation	()	O

in to deliberational and in-

13

## IV Site or Project Hazard Monitoring Program

A.	Direct	Reading	Air	Monitoring	Instruments
----	--------	---------	-----	------------	-------------

All instruments Taken into the	fid.	// be calibi	Instrument Checke Upon Receipt	prior to being
CGI	()			
O2	()			
CGI/O2	()			•
CGI/O2/tox-PPM,H2S,H2S/CO	()			
RAD-GM, Pancake	X			
- NaI	, ()			
- NaI - Zns A, scintillamel	20.00			
- OTHER ()				
PID	()			
- HNU 10.2	X			
- HNU 11.7	()			
- HNU 9 5,	()			
- PHOTOVAC,TMA,OTHE	R ()			
FID	()			,
FOX-128	M	The OVA 1	28 11/16	e used in lieu a
- FOX 128GC	()	PID when	stm spher is	e used in lieu of homidity make
-HEATH,AID,OTHER	()	The PID un	usable	
RAM, Mini-RAM, Other	X	•		
MONITOX-HCN	()			
H2S	()			
COCL,	()			

SO2,		()		west	~~		nill par Program
other Z	40	×	all	oro,	ect e	5/3ff,	w // nav
Bio-Aerosol Monito	r	()	12 10	EST	7 1/2	7/1	D
Detector Tubes		()			700	1 – 0	rogram
Pump - MSA,Draege	er.Sensi	idyne ()					
- Tubes(No.)/typ	-	()					~
- Tubes(No.)/typ	<b>)</b> 6	()					
Reporting Format:							
1. Field Notebo	ok	2. Fiel 5. Oth	ld Data She er	ets	3 Air	Monitoring	Log
2. Direct Reading	Air Mo	onitoring In	istruments (	Calibrati	on Record		
Instrument, Mfg., Model, Eqp. I.D. No.Date	Time	Calib, Material	Calib. Method Mfg.'s	Other		Final Setting& Reading	Calibs. Initials
<u> </u>					<del></del>		
To the state of th				*	•		
				Y .F			
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<u> </u>		*					
						<del></del>	

3

Mig., Model, Eqp. L.D. No.Date	Calib, Time Material	Calib. Method Mfg.'s	Other	Initial Setting& Reading	Final Setting& Reading	Calibs. Initials
		-				
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	<del></del>	·				<del></del>
						<del></del>
		-				
		-	-	<del></del>	<del></del>	
	-		-			
						<del></del>
		-	-			
		•				
		•	-			
		-	-			
2. Peri	nstrument:  ig Frequency  odically  odically  tinuous	V	, , ,	Task	s 09	
Monitoring L	ocations			Task	•	
2. Nea 3. Key	vind/downwind of r residents, etc. site activity locat decon area staging area excavation area field lab area storage tanks lagoons drums		•			

4. Fixed stations 5. Other: ARILING	Sine
Air Monitoring Instrument: PTO	/F10/
Air Monitoring Frequency	Tasks 09
1. Periodically 2. Periodically 3. Continuous 4. Other:	
Monitoring Locations	Tasks 87
1. Upwind/downwind of 2. Near residents, etc. 3. Key site activity locat decon area staging area excavation area field lab area storage tanks lagoons Drums 4. Fixed stations 5. Other: declines	ions:
D. Action Levels	
1. Explosive atmosphere:	Tasks:
Action Level	Action
<10% LEL	Continue investigation
10%-25% LEL	Continue on-site monitoring with extreme caution as higher levels are encountered.
>25% LEL	Explosion hazard. Withdraw from area immediately
2. Oxygen: +	Tasks:
Action Level	Action
<19.5%	Monitor wearing SCBA.
	NOTE: Combustible gas readings may not be valid in atmospheres with <19.5% oxygen.
19.5%-25%	Continue investigation with caution, as Oxygen level: >21% require extreme caution. Other than normal leve may be due to presence of other substances.

	>25%	Fire hazard potential. Stop work and Consult a fire safety specialist.
X	3. Radiation:	Tasks: 09
	Action Level	Action .
	3 x Bkg - <2 mR/hr	Radiation above background levels (normally 0 01-0 02 mR/hr)g signifies possible source(s) radiation present.
		Continue investigation with caution. Perform thorough monitoring. Consult with a health physicist.
	> 2 mrem/hr	Potential radiation hazard. Evacuate site. Continue investigation only upon the advice of a health physicist.
X	4. Organic gases and vapor	= > Background (level C) < 5 uni
	5 Inorganic gases and vapo	ors:
	Action Level	Action
	Depends on chemical	Consult standard reference manuals for air concentration/toxicity data. Action level depends on PEL/REL/TLV.
Ambien	se factors.	mber must also be adjusted to account for instrument ic and action levels to institute Air Sampling
	air sampling plan is incorpora	
Check		r action levels which will apply to deciding to institute
Meteor	ological conditions:	. <del>4</del>
<del></del>	a. Dry weather for day b. ambient temperature abo	
<b>X</b>	c. Wind increasing potential of controlled area. We exceed a sefe	al of more contaminant dispersion in or migration out  ork will cease when wind speed  level as of termined by 5 to Manage  ing or increasing scope of air sampling:
Activit		ing or increasing scope of air sampling: or RFP (35 mph)
	a. major spills	
,,,,		ig in potential presence of new chemical hazards.
	c. site activity increases air	rborne contaminants possibilities.
	e , ¹ \$	

	d. Air sampling documentation required for:  Downgrading from stipulated level of protection.  Documenting no migration of contaminants off site through air
Applic	able Action Levels for instituting Air Sampling: (Check as Appropriate)
*	<ul> <li>Visible vapor/gas clouds or vapors levels, or</li> <li>Visible dust or particulate levels measured with Direct Reading Instrument, two three times background or above action level, sustained over 10-15 minute period</li> </ul>
l) San	npling Matrix/air interface - Monitor matrix/air interface and breathing zone periodically with DRI, if Vapor levels > 2-3 times background, monitor continuously follow No. 4.
2) Cos	ntainer opening - Monitor opening and breathing zone periodically with DRI, if Vapor levels > 2-3 times background, monitor opening and breathing zone continuously follow No. 4.
3) Exc	eavation/Drilling/Intrusive work - Monitor at ground level and breathing zone periodically with DRI, if Vapor levels > 2-3 times background, monitor opening and breathing zone continuously, follow No. 4
4) Bre	eathing zone - Ensure level of protection specified in HASP is being used Consult HASI or Corporate Health and Safety relative to instituting personnel, area or perimeter Sampling.
Other:	
	ı
B Sar	nple Location
	1. Ambient background - Locations: Substances Sampled for
	a. b.
	2. Personal samples, on-site - Locations
n marring the	enced to the second of the sec
	<b>b.</b> 1
,	d. The transfer of the second
3,	
	3. Personal samples, off-site - Locations
	<b>a.</b>
	b. c.
	d.
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A	

CARACTER C.

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<del>سیس</del> ہ	4.	Fixed on-site	samples - Loca	stions:		
	2.					
	b.					
	C.		>			
	d. c.					
	ſ.					
	5.	Fixed off-sit	e samples - Loc	ations		
	2.					
	b.					
	c. d.					_
	G.					
	6.	Mobile off-si	ite samples - Lo	and transf		
	U.	Mayoric Orres	ne anuthres . To	CALIVIIS.		
	3.					
	b.					
	c.					
	7.	Mobile on-sit	te samples - Loc	cations:		
	a.					
	b.					
	C.					
	8.	Background	sample stations	- Locations		
	2.					
	b.					
	c.					
_						
B. Air Sa	mp	ling				
1Perso	nal	Sampling Pu	mps - Gilian,SK	CLMSA No. ( )	_	
			Sampling N	Media - Sorbent Tube	<b>S</b>	
Task(s)	Lo	cation '	Duration	Frequency	Type	Anal. Meth.

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# Sampling Media - Filter

Task(s) Location Duration Anal, Meth. Frequency Type Sampling Media - Impinger Anal. Meth. Task(s) Location Duration Frequency Type Sampling Media - Air Bag Task(s) Location Duration Frequency Anal. Meth. Type B. Air Sampling 1. Personal Sampling Pumps - Gilian, SKC, MSA Sampling Media - Sorbent Tubes Task(s) Location Duration Anal. Meth. Frequency Type

# Sampling Media - Sorbent Tubes (cont.)

Task(s) Location Duration Frequency Type Anal Meth.

# Sampling Media - Filter

Task(s) Location Duration Frequency Type Anal. Meth.

2. Hi-Volume Pumps

Sampling Media - Filter

Task(s) Location Duration Frequency Type Anal. Meth.

3. Portable Gas Chroma	atograph Task(s):	Type:			
Portable GC Analytical	Plan:				
4. Passive Dosimeters	Task(s)	Туре	Location	Frequency	Duration
Organic Vapor Mercury Vapor Paper Color Change TLD Film Badge Liquid Media	( ) ( ) ( ) ( ) ( -)				`

- 5 Wipe Sampling
- a. Wipe Sampling Plan

# C. Physical Hazard and Miscellanous Monitors and Detectors

	Task(s)	Calibration RQD? Method	Location	Frequency
SOUND LEVEL METER	()	()		
NOISE DOSIMETER(s)	()	()	ı	
OCTAVE BAND ANALYER	()	()	ž v	
LIGHT METER	()	()		
ELECTRIC CIRC. DETECTOR	()	()		
Thermometer	<b>()</b>	()		

	Task(s)	RQD? M		Locatio	0	Frequency	
Wind Speed Indic.	()	()					
Barometer	()	()					
Psychrometer	()	()					
Infra Red Thermom.	()	()					
Micro Wave Detector	()	()					
pH METER	()	()				~	
D. Indicator Kits							
	Tas	k(s)	Locat	10 <b>n</b>		Frequency	
pH PAPER	()						
PEROXIDE PAPER	()						
CHLOR-N-OIL KIT	()						
HAZARD CATAGORIZ KIT	ING ()						
ASBESTOS TEST KIT	()						
G. Work Location Instru	ment Readi	ngs					
Location.							
% LEL	% O ₂		PID ppm.				
FID ppm A	erosol Mona	tor _{mg/M} 3 _					
GM: Shield Probe/Thin \	Window - ml	R/hr		_cpm	·		
NaI	uR/hr; 2	ZnS		cı	om		
(Monitox)ppm: ( )		i( )					
( )	_( )		<u> </u>				
(Detector Tube)(s): (	)	) نــــــن (	)				
( )(	)	) نــــــــــــــــــــــــــــــــــــ	)	Parameters			
Sound LevelsdBA;	dBA;	_dBA;	_dBA;	_dBA; _	dBA; _	dBA;	_dBA
Illumination pH	Other		Other		Other		

LEL	
FID ppm	Location
GM. Shield Probe/Thin Window - mR/hrcpm	% LEL % O ₂ PID ppm
Nal	FID ppm Aerosol Monitor mg/M ³
(Monitox)ppm: ( )	GM Shield Probe/Thin Window - mR/hrcpm
(Detector Tube)(s): ( )	NaIuR/hr; ZnScpm
(Detector Tube)(s): ( )	(Monitox)ppm: ( )
Sound LevelsdBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,d	( )( )
Sound LevelsdBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,dBA,d	(Detector Tube)(s): ( )( )
Illumination pH Other	( )( )(
1. Personnel Decontamination  Section III C. lists the tasks and specific levels of protection required for each. Consistent with the levels of protection required, step by step procedures for personnel decontamination for each Level of Protection are attached.  2. Levels of Protection Required for Decontamination Personnel  The levels of protection required for personnel assisting with decontamination will be [	Sound LevelsdBA,dBA,dBA,dBA,dBA,dBA,dBA
1. Personnel Decontamination  Section III C. lists the tasks and specific levels of protection required for each. Consistent with the levels of protection required, step by step procedures for personnel decontamination for each Level of Protection are attached.  2. Levels of Protection Required for Decontamination Personnel  The levels of protection required for personnel assisting with decontamination will be [	Illumination pH Other Other Other
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with the levels of protection required, step by step procedures for personnel decontamination for each Level of Protection are attached.  2. Levels of Protection Required for Decontamination Personnel  The levels of protection required for personnel assisting with decontamination will be [	1. Personnel Decontamination
The levels of protection required for personnel assisting with decontamination will be [	with the levels of protection required, step by step procedures for personnel decontamination
Level B. Level C. Level D. CHECK) Modifications include: Sarange Coursels, wirels slowes, HARA HA WAS Splash streets, Boot Cours.  3. Disposition of Decontamination Wastes  (Provide a description of waste disposition including identification of storage area, hauler, and final disposal site if applicable.)  [Paill Ribs and other money courant will be decommended at the western second paper have a form slower where will be decommended by the cream. I because the will be seemed for the course of the cour	2. Levels of Protection Required for Decontamination Personnel
3. Disposition of Decontamination Wastes  (Provide a description of waste disposition including identification of storage area, hauler, and final disposal site if applicable.)    Dell Albs and other money component will be decomposition at the western decore and hours and slucke wastes will be reproved by the cluster. Increased the will be scenewed for Equipment Decontamination Residence and the Delivery and the will be scenewed for the will be another cluster and procedure for decontamination steps required for non-sampling equipment and heavy	Level B. Level C. Level Dl.
(Provide a description of waste disposition including identification of storage area, hauler, and final disposal site if applicable.)    Dell Dibs and other nearly courant will be decommented at the western decor and hours and slucke where will be reproved by the client. I scanned be will be scenered for a few only be another than the opening the will be scenered for the will be another client on-ly.  A procedure for decontamination steps required for non-sampling equipment and heavy	SPIASH STIGED, BOOT COVERS
final disposal site if applicable.)    Dell Ai65 AND OFFER HORKY COURTENT WILL BE OCCURRENTATION  AT THE WESTON DECON PAD. LIQUED AND SIVORE WASTES WILL  BE REPROVED BY THE CILETT. DECARDED HE WILL BE SCREENED FOR  4 Equipment Decontamination RADIOACTIVITY PROIR TO MATORILING  ORT WILL BE WIRED CLESSY OR-14  A procedure for decontamination steps required for non-sampling equipment and heavy	3. Disposition of Decontamination Wastes
	final disposal site if applicable.)    Dell Ribs and other nearly couldness will be decommonded    AT THE WESTON DECON DAD. LIQUED AND SIVOGE WASTES WILL    BE REPROVED BY THE CILETT. DECARDED HE WILL BE SCREENED FOR    Equipment Decontamination Region-criving proint to landfling    ORT WILL BE WILDED CLESSY ON-14    A procedure for decontamination steps required for non-sampling equipment and heavy

ť J,

# 5. Sampling Equipment Decontamination

Sampling equipment will be decontaminated in accordance with the following procedure:

Sampling GOUPMENT WILL BE SCREENCED FOR RADIOACTIVITY

PRIOR TO LEAVING THE SITE. DECONTAMINATION WILL THE PLACE

AT THE DECON FACILITY

V Contingencies

# A. Emergency Contacts and Phone Numbers

Agency	Contact	Phone Number
Local Medical Emergency Facility WESTON Medical Emergency Contact	Rocky Ams moderal AGATHA	(305) 966 - ナいリ (513) 421-3063
WESTON Health and Safety, LAKEUS Fire Department	ON SITE SETEVICE	(215) 430 7406 303 980 68 (303) 466-211
Police Department On Site Coordinator	Tom Gewinsons	(303) 966 5355
Site Telephone Nearest Telephone	GUARD SAMPIONS	(303) 966 (30)

# B. LOCAL MEDICAL EMERGENCY FACILITY(S)

# 1. Primary

Name of Hospital: ST. ANTHONY NORTH

Address: 2552 Warse 84 & Ava.

Phone No 399 - 1211

Name of Contact Racy Flans MEDICAL

Phone No 946-2911

Type of Service - Physical Trauma only ( ) Chemical Exposure only ( ) Physical Trauma & Chemical Exposure (K) Available 24 Hours (K)

Route to Hospital: (Attach Map)

The Medical fractions are available on Many eite; if framer to the most of the state of the stat

# 2. Secondary or Specialty Services Provider

Name of Hospital:

Address.

Phone No

Name of Contact

Phone No.

Type of Service - Physical Trauma only ( ) Chemical Exposure only ( ) Physical Trauma & Chemical Exposure ( ) Available 24 Hours ( )

Route to Hospital: (Attach Map):

Travel Time From Site (Minutes): Distance to Hospital (Miles): Name/No. of 24 Hr. Ambulance Service:

- Contingencies (Continued)
- C. Response Plans
- 1 Medical General

2. Special First Aid Procedures Hydrofluide on site WY/N

Cyanides on site WY/N

a. First Aid Kit - Type Location

> All FIELD TERMS ARE LEDUPATED WITH A BASIC FIRST AID RIT AND A LIERO ANDIO FOR CONTACT WITH WESTEN BAGE OFFRATIONS ROCKY FIATS Emoneurry Survice

b Eyewash required WY/N

Location

c. Safety Shower (N) */.Y

Location Location

3. Plan for Response to Fire/Explosion

CONTACT ROCKY FLATS F. R. PROTECTION Service

4. Fire extinguisher

a. Type

b. Location

All fier o resons mes GOVIDSON WITH FIRE Germousmas

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5. Plan for Response to Spill/Release 6. Spill Response Gear

Conner Rocky Flors Description Location

1442 Mat Response

Unit:

6. Plan for Response to Security Problems

LINTECT Rocky Flore Plans Saturally

# VI. Site Personnel and Certification Status

### A. WESTON

Name	Ţitle	Tesk(s)	Hedical Current a.	 . T	raining Current c.	Certification Level or Description
1. Bert Hya	le Project Man	Mer 09				B- 5
z. freg She	urman Gestaci	Tank Mg				
3. Nana Ma	orks Site Ma	nager				B-T
L. Ken Mill	er					B-T
s. Neffrey	Herrick					B-5
6. Tony M	1elo n					B-T
7. Rick /	Yorrow					B-T
8. Scott	Parker					
9. Kethy	Keryluk					
10. Kms 1	Hemlein					B-T
Site Health and	Sofery Coordinated	(SHSC)				C-5 B-T

⁻⁽a)-Training - All personnel, including visitors, entering the exclusion or contamination reduction zones must have certifications of completion of training in accordance with OSHA 29 CFR 1910 29, CFR 1926/1910 or 20 CFR 1910-120.

- (b) Respirator fit Testing All persons, including visitors, entering any area requiring the use or potential use of any negative pressure respirator must have had as a minimum, a qualitative fit test, indinistered in accordance with OSNA 20 CFR 1910.134 or ANSI within the Last 12 months. If site conditions require the use of a full face negative pressure, air purifying respirator for protection from Abbestos or Lead, employees must have had a quantitative fit test, administered according to OSNA 20 CFR 1910.1002 or 1025 within the last 6 manths.
- (c) Hedical Monitoring Requirements All personnel, including visitors, entering the exclusion or contamination reduction zones must be certified as medically fit to work, and to wear a respirator, if appropriate, in accordance with 29 CFR 1910, 20 CFR 1926/1910 or 29 CFR 1910.120.

The Site Health and Safety Coordinator is responsible for verifying all certifications and fit tests.

# VI. Site Personnel and Certification Status

#### A. WESTON

Name	•	Title	Task(s)	Hedical Current a.	Fit Test Current Quei. Quent. b. b.	Training Current c.	Certification Level or Description
1. Frank							C-5/B B-T
z. Rober	t Cre	yton					B-T
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
Site Heelth	and Safety	Coordinato	r (SHSC)				
11.				<u>-</u>			

- (a) Training All personnel, including visitors, entering the exclusion or contamination reduction zones must have certifications of completion of training in accordance with OSMA 29 CFR 1910 29, CFR 1926/1910 or 20 CFR 1910-120.
  - (b) Respirator Fit Testing All persons, including visitors, entering any area requiring the use or potential use of any negative pressure respirator must have had as a minimum, a qualitative fit test, administered in accordance with OSNA 20 CFR 1910.134 or ANSI within the last 12 months. If site conditions require the use of a full face negative pressure, air purifying respirator for protection from Asbestos or lead, employees must have had a quantitative fit test, administered according to OSNA 20 CFR 1910.1002 or 1025 within the last 6 months.
  - (c) Medical Monitoring Requirements All personnel, including visitors, entering the exclusion or contamination reduction zones must be certified as medically fit to work, and to wear a respirator, if appropriate, in accordance with 29 CFR 1910, 20 CFR 1926/1910 or 29 CFR 1910.120.

The Site Health and Safety Coordinator is responsible for verifying all certifications and fit tests.

B. Subcontract	or's Health and	Safety Pro	eram E	valuati	on.		
Name and addr Boyles Activities to be Boreho	ess of subconting Broth conducted by Drill	lers, /	De//	Con	is/ruc	5th Avi	e., Golde
Item			Acce	ptable	Unacce	otable C	omments
On-Site Monitor	tive Equipmen HA criteria, ified in WLHA ring Equipmen and Operated F rocedures Clea OSHA/WESTO cedures on Procedures	t Available: SP t Available, Properly rly Specifie ON Criteria			() () () () () () ()	ω. ω <u>.</u> ω <u>.</u>	eston Supp eston HAS eston HAS
Additional Com	iments:						
Evaluation cond	-		Date	•			
Hame	Title	Task(s)	Hedical Current 8.	Fit To Curre Quel. b.	nt T	raining Current c.	Certification Level or Description
51= Doyle 579	les, Drilling	Foreman					
2.			,				
3.							
4.							
5.							

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Name and address of subcontractor:	em DAVARITA					
Salazar Broomfle Activities to be conducted by subcontractor	ld CO	220				
EVALUATION CRITERIA						
Item	Acceptable	Unacceptable	Comments			
Medical Program meets OSHA/WESTON Criteria Personal Protective Equipment Available: a. meets OSHA criteria, b. is as specified in WLHASP On-Site Monitoring Equipment Available, Calibrated and Operated Properly Safe Working Procedures Clearly Specified Training meets OSHA/WESTON Criteria Emergency Procedures Decontamination Procedures General Health and Safety Program	() () () () ()	()	Weston Supplied Weston HASAP Weston HASAP Weston HASAF			
Evaluation  Additional Comments:	( )	()				
Additional Comments.			•			
Evaluation conducted by:	Date:					
C. Subcontractor						
	Fit Te edical Curre urrent Gual. a. b.		Certification Level or Description			
1. Brian Pribyl Geotech 09						
· 2. *						
3.	•					

B. Subcontractor's Health and Safety Prog	ram Evaluation	) <u>n</u>		
Name and address of subcontractor:  Chen Associates, Activities to be conducted by subcontractor  GeoTechnical Suppo	۲ <b>۰</b>		Street,	Denve
DVALOA	HON CRITE	N.A.		
Item.	Acceptable	Unacceptable	Comments	

Item	Acceptable	Unacceptable	Comments
Medical Program meets OSHA/WESTON Criteria Personal Protective Equipment Available: a. meets OSHA criteria. b. is as specified in WLHASP On-Site Monitoring Equipment Available, Calibrated and Operated Properly Safe Working Procedures Clearly Specified Training meets OSHA/WESTON Criteria Emergency Procedures Decontamination Procedures General Health and Safety Program Evaluation			Weston Suppli Weston HASP Weston HASP Weston HASP
Additional Comments:			
Evaluation conducted by:	Date:		
C. Subcontractor			
	Fit Te Medical Curre Current Qual. a. b.		Certification Level or Description
1. Steve Carpenter, Geologist	t 09		
2.			
3.			
4.			
5.			
6.			

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# VII. HEALTH AND SAFETY PLAN APPROVAL/SIGN OFF FORMAT

ROCKY FINTS Plant GOLAGY, CO

2.WO# 2029.33.09

1. Site Name

### 14, 1/5, AC

Work Location Address:

I have read, understood, and agreed with the information set forth in this Health and Safety Plan (and attachments) and discussed in the Personnel Health and Safety briefing.					
Site Safety Start. Cost	Signature Solo.	Date /-30-90			
Frances Ma Devely	Flana Marland	1-30-90 Date			
	Stort C. Kuhi	1-30-890 Date			
Robert Crayton		/-30-98 Date			
Scott T. Gomes	Story . Solution	1-30-95 Date			
	signature Signature	1-30-90 Date			
Hame Susanovers	Signature M. S. M.	1- 30-90 Date			
Jeffrey F. Herrich	Soft of the state	1/30/90 Date			
Land States	Signature	2-2-96 Date			
Delene Barlay		2-5-90 Date			
Robert Sengebush	Retat Mengebush	2-5-90 Date			

# VIL HEALTH AND SAFETY PLAN APPROVAL/SIGN OFF FORMAT

1. Site Name

881 HILSING

Work Location Address:

ROCKY FINTS MANT GOLAGY, CO

I have read, understood, and agreed with the information set forth in this Health and Safety Plan (and attachments) and discussed in the Personnel Health and Safety briefing.

Site Safety Co-ordinator	Signature	Date
Name	Signature	Date
Herro	Signature	Date
Name	Signature	Date
Name	Signature	Date
Name	Signature	Date
Name .	Signature	Date
Name	Signature	Oate

# VIL HEALTH AND SAFETY PLAN APPROVAL/SIGN OFF FORMAT

1. Site Name 88/ 14,1/5,000 Work Location Address:

2. WO# 2029 33.09

ROCKY FINTS PIANT GOLAGY, CO

I have read, understood, and agreed with the information set forth in this Health and Safety Plan (and attachments) and discussed in the Personnel Health and Safety briefing.

Site Safety Co-ordinator	Signature	Date
KAS H	HOS SIGNATURE	2/5/90 Date
MIKE BOYD	Signature	2/7/90 Date
Homes Spacest	Storieture	02.08.90
Timethyle, Mer.	+ Janoth Me. of	2- 9-95 Date
THANKS A LUTHERER	Signature A. S. Serre	2-12-90 Date
Kimberly Harriz	Signature Starting	2-18-90 Date
Name	Signature D. WARRAL	7790 Date/790
SOOT A. Tuille	- Significan	7/22/00 Date
(A. holan)	signature	3-20.90 Date
Name	Signature	Date

¥ :

Site Specific Training Meeting	<u>Periodically</u>	
		Level A
		Level B
¥		Level C
×		Level D
		Monitoring, Sec. 7.0; 29 CFR 1910.120 h.
×		Decontamination, Sec. 9.0; 29 CFR 1910.120 k.
X		Emergency Response, Sec. 10.0; 29 CFR 1910.120 1.
		Elements of an Emergency Response, Sec. 100; 29 CFR 1910.120 1.
×		Procedures for Handling Site Emergency Incidents, Sec. 10.0; 29 CFR 1910.120 1.
×		Off-site emergency response, 29 CFR 1910.120 1.
		Handling drums and containers, 29 CFR 1910.120 j.
		Opening Drums and Containers
		Electrical Material Handling Equipment.
X		Radioactive Waste
		Shock sensitive waste
		Laboratory waste packs.
		Sampling drums and containers
		Shipping and transport, 49 CFR 172.101
		Tank and vault procedures
		Illumination, 29 CFR 1910.120 m.
		Sanitation, 29 CFR 1910.120 n.

# VIII. Training and Briefing Topies

The following stems will be covered at the site specific training meeting, daily or periodically.

Site Specific Training Meeting	Periodically	•
X		Site characterization and analysis, Sec. 3.0, 29 CFR 1910.120 i.
×		Physical hazards, Table 3.2.
		Chemical hazards, Table 3.1.
		Animal bites, stings and poisonous plants.
		Etiologic (Infectious) agents.
		Site contro, Sec. 8.0; 29 CFR 1910.120 d.
*		Engineering controls and work practices, Sec. 8.5; 29 CFR 1910.120 g.
×		Heavy machinery.
		Forklift
		Backhoe
		Equipment
×		Tools
		Ladder 29 CFR 1910.27 d.
a madi		Overhead and underground utilities
		Scaffolds
	*	Structural Integrity
		Unguarded openings - wall, floor, ceilings (?).
		Pressurized Air Cylinders
x		Personnel protective equipment, Sec. 5.0; 29 CFR 1910.120 g; 29 CFR 1910.134.
×		Respiratory Protection Sec. 5.8; 29 CFR 1910.120 g; Z88.2-1980.

Attachment 1. Level D/Modified Level D Decontamination [Check indicated Functions or add steps as necessary]

SIEF	FUNCTION =	SOLUTION OF PROCESS,
(1)	Segregated equipment drop	•
()	Boot cover and glove wash	
()	Boot cover and glove rinse	
(2)	Tape removal - outer glove and boot	
<b>(3)</b>	Boot cover removal	•
( <del>/</del> )	Outer glove removal	
	HOT-LIN	E
()	Suit/safety boot wash	
()	Suit/boot/glove rinse	
( )	Safety boot removal	
(2)	Suit Removal	
()	Inner glove wash	
()	Inner glove rinse	
()	Inner giove removal	
()	Inner clothing removal	
**********	CRC/SAFE ZONE BOU	NDARY
···(- <del></del> )	Field wash	
()	Redress	
DISPOS END O	SAL PLAN: HE WILL BE BACKER FDAY: FOR STORAGE UNTIL	THE BROUGHT TO WESTER TRAILER.  SCREENED AND LANDFILLED.
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END O	E BROIECT	

# Attachment 2. LEVEL C DECONTAMINATION [Check indicated Functions or add steps as necessary]

STEP	FUNCTION	DESCRIPTION OF PROCESS, SOLUTION AND CONTAINER
(1)	Segregated equipment drop	
(Z)	Boot cover and glove wash	
(3)	Boot cover and glove riase	
<del>(4</del> )	Tape removal - outer glove/boot	
67	Boot cover removal	
<b>(</b> G)	Outer glove removal	
***********	HOT-LINE	
()	Suit/safety boot wash	
()	Suit/boot/glove rinse	
()	Safety boot removal	
(7)	Suit Removal	
()	Inner glove wash	
()	Inner glove rinse	
(8)	Face piece removal	
(1)	Inner glove removal	
( ) =====	Inner clothing removal	
**********	CRC/SAFE ZONE BOUNDAI	RY
()	Field wash	
()	Redress **	
DISPOS END O	SAL PLAN: Some me or	Corel D
END O	F WEEK:	
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# PHASEII RI/FS WORK PLAN

ROCKY FLATS PLANT

38 HELSIDE AREA

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(Chrysemys picta) and the western plains garter snake (Thamnophis radix) are found in and around many of the ponds (U.S. DOE, 1980).

# 1.4 881 HILLSIDE SITE LOCATIONS AND DESCRIPTIONS

This RI/FS Work Plan addresses the 881 Hillside Area located on the south side of the Rocky Flats Plant security area. These sites were designated high priority sites because of their suspected relationship to ground-water contamination (U.S. DOE, 1987a). Several sites are included in the area because of their physical proximity to each other. Figure 1-5 shows the location of the 881 Hillside Area and presents the site locations within the area.

Twelve sites are located within the 881 Hillside Area. These sites are:

- Oil Sludge Pit Site (SWMU Ref. No. 102);
- Chemical Burial Site (SWMU Ref. No. 103);
- Liquid Dumping Site (SWMU Ref. No. 104);
- Out-of-service Fuel Oil Tank Sites (SWMU Ref. Nos. 105.1 and 105.2);
- Outfall Site (SWMU Ref. No. 106);
- Hillside Oil Leak Site (SWMU Ref No. 107);
- Multiple Solvent Spill Sites (SWMU Ref. Nos. 119.1 and 119.2);
  - Radioactive Site 800 Area Site #1 (SWMU Ref. No. 130);
    - Sanitary Waste Line Leak Site (SWMU Ref. No. 145); and
  - Building 885 Drum Storage Site (SWMU Ref. No. 177).

The site descriptions presented in the following sections are taken from the Rocky Flats Plant CEARP Phase I Report (U.S. DOE, 1986), the RCRA Part B Operating Permit Application (Rockwell International, 1987c), and the Phase II Remedial Investigation Report for High Priority Sites (Rockwell International, 1988a). The following descriptions are also based on a more recent review of historical aerial photography.

DRAFT PHASE HI RI/FS WORK PLAN - 901 HILISIDE AREA ROCKY FLATS PLANT, GOLDEN, COLORADO egiz(881\ri-6\se-1.jan

JANUARY 1990 PAGE 1-17

# 1.4.1 Oil Sludge Pit Site (SWMU Ref. No. 102)

Approximately 30 to 50 drums of oil sludge were emptied into a pit south of Building 881 in the late 1950s, and the pit was later covered (Rockwell International, 1987c). The sludge was reportedly collected during cleaning of the two No. 6 fuel oil tanks south of Building 881 (SWMU Ref. Nos. 105.1 and 105.2) in 1958 based on interviews with Plant personnel (Rockwell International, 1987c). However, the pit appears to have been in existence in 1955 based on aerial photography of the area. In the 1955 photos, the oil sludge pit is located approximately 500 feet south of Building 881 and measures approximately 40 feet by 70 feet in dimension. The pit appears to contain oily liquids and seepage from the pit is evident. Also apparent on the 1955 photo is a small pond adjacent to Woman Creek (labeled former retention pond on Figure 1-5). Drainage from the Oil Sludge Pit Site appears directed toward this pond. The oil sludge pit was covered after its use (Rockwell International, 1987c), and it is no longer visible on 1963 aerial photographs.

# 1.4.2 Chemical Burial Site (SWMU Ref. No. 103)

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An area south of Building 881 was reportedly used to bury unknown chemicals (U. S. DOE, 1986). The exact location, dates of use, and contents of the site are unknown. This site was originally thought to be located in the same area as the Oil Sludge Pit Site (Rockwell International, 1987c). However, a pit apparently filled with liquid is evident approximately 150 feet southeast of Building 881 on 1963 aerial photographs. This pit is roughly circular on the photos and measures approximately 50 feet in diameter.

### 1.4.3 Liquid Dumping Site (SWMU Ref. No. 104)

An area east of Building 881 was reportedly used for disposal of unknown liquids and for disposing of empty drums prior to 1969 (U. S. DOE, 1986). A pit was reported with plan dimensions of approximately 50 by 50 feet based on 1965 aerial photographs (Rockwell International, 1987c). However, further review of these historical aerial photos indicates the

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DRAFT PHASE III RI/PS WORK PLAN - 861 HILLSIDE ARRA ROCKY PLATS PLANT, GOLDEN, COLORADO egiz/881/d-6/ses-1.jan

JANUARY 1900 PAGE 1-19 identified "pit" may be a shadow on the photo. The Liquid Dumping Pit Site is likely the same location as the Chemical Burial Site; however, the area originally identified as the Liquid Dumping Pit will also undergo additional investigation to verify its absence.

# 1.4.4 Out-of Service Fuel Tank Sites (SWMU Ref. Nos. 105.1 and 105.2)

Two out-of-service No. 6 fuel oil tanks are located immediately south of Building 881. Asbestos was placed in the two tanks and they were later filled with concrete (U. S. DOE, 1986). The exact dates of these activities are unknown; however, they apparently occurred subsequent to use of the fuel oil storage tanks (1958 through 1976) (Rockwell International, 1987c).

### 1.4.5 Outfall Site (SWMU Ref. No. 106)

A six-inch diameter vitrified clay pipe outfall existed south of Building 881 which discharged water in December 1977. Previous reports indicated that this was a cleanout pipe for an overflow line from the Building 881 cooling tower (Rockwell International, 1987c). However, review of construction drawings during the Phase II RI indicated that the pipe is an overflow line from the sanitary sewer sump in Building 887.

# 1.4.6 Hillside Oil Leak Site (SWMU Ref. No. 107)

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In May 1973, an oil leak was discovered on the hillside south of Building 881. The source of the oil was believed to be the two No. 6 fuel oil tanks (SWMUs 105.1 and 105.2) south of the building; however, pressure testing of the tanks and associated lines did not reveal any leaks (Rockwell International, 1987c). The oil spill was contained with straw, and the straw and soil were removed and disposed of in the present landfill north of the Plant (Rockwell International, 1987c).

DRAFT PHASE III RI/FS WORK PLAN - 881 HILLSIDE AREA ROCKY FLATS FLANT, GOLDEN, COLORADO egitg\881\ti-fs\see-1.jen January 1990 Page 1-30 It was later discovered that the oil had emerged through the Building \$81 footing drain outfall. A ditch and concrete skimming pond were built below the footing drain outfall to contain the oil (Owen and Steward, 1973). These structures are still present, although no oil has been observed in the outfall since 1973 (Rockwell International, 1987c).

# 1.4.7 Multiple Solvent Spill Site (SWMU Ref. Nos. 119.1 and 119.2)

Beginning in 1967, two areas east of Building 881 and along the southern perimeter road were used as barrel storage areas. The barrels contained unknown quantities and types of solvents and wastes. The two facilities were expanded between 1967 and 1971, with major expansion occurring in 1969. Barrel storage in these areas was discontinued, and all barrels were removed by 1972. The exact types and quantities of solvents stored at this facility are unknown (Rockwell International, 1987c). SWMU 119.1 is the larger western barrel storage area, and SWMU 119.2 is the eastern barrel storage area. The site boundaries shown on Figure 1-5 represent the extent of soil disturbance associated with the sites. Actual barrel storage areas within each site are also shown.

# 1.4.8 Radioactive Site - 800 Area #1 (SWMU Ref. No. 130)

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An area east of Building 881 and northwest of SWMU 119.1 was used between 1969 and 1972 to dispose of soil and asphalt contaminated with low levels of plutonium. The materials at this site were derived from three sources on Plant site.

In September 1969 approximately 320 tons [250 cubic yards (Illsley, 1978)] of plutonium contaminated soil and asphalt were removed from the west side of Building 776 and placed on the 881 Hillside (Owen and Steward, 1973). The soil and asphalt were contaminated during the May 11, 1969, fire in building 776, and had an estimated average plutonium activity of 7.4 disintegrations per minute per gram (dpm/g). The_total plutonium concentration of this material was estimated to be 14 milligrams (mg) (Putzier, 1970). Material from the 1969 fire was buried under one to two feet of fill dirt (Owen and Steward, 1973).

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Draft Phase III ri/FS work Plan - set Hillside Area Rocky Plats Plant, Golden, Colorado egis/881/ri-0/sec-1.jan

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JANUARY 1990 PAGE 1-21 In August 1970, a section of the Central Avenue roadway between Eighth and Tenth Streets was removed and placed on the 881 Hillside at SWMU 130 (Owen and Steward, 1973). This stretch of road was radioactively contaminated in June 1968 by a leaking drum in transit from the 903 Drum Storage Site to Building 774 (Owen and Steward, 1973). The exact quantity and radioactivity of the material removed from Central Avenue are unknown.

The third episode of soil disposal at SWMU 130 occurred in 1972 (Owen and Steward, 1973). Approximately 60 cubic yards of plutonium contaminated soil were removed from around the Building 774 process waste tanks and placed on the 881 Hillside (Owen and Steward, 1973). The soil was deposited on top of previously deposited soils at SWMU 130 and covered with approximately three feet of fill dirt (Illsley, 1978). The estimated total long lived alpha activity of this soil is less than 250 dpm/g (Illsley, 1978).

# 1.4.9 Sanitary Waste Line Leak Site (SWMU Ref. No. 145)

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The four-inch cement-asbestos sanitary sewer line located south of Building 881 leaked in January 1981. An earthen dike was constructed to prevent the spill from entering the South Interceptor Ditch, and the line was repaired. The line conveyed sanitary wastes to the sanitary treatment plant and did not carry hazardous or radioactive materials. Conveyance of laundry wastewater, which may have contained low levels of radioactive materials, was discontinued in 1973 (Rockwell International, 1987c). Review of Building 881 construction drawings indicates that the only sanitary waste lines presently located south of the building are the sixinch overflow line from Building 887 (SWMU 106) and an eight-inch vitrified clay pipe which runs east-west into Building 887.

# 1.4.10 Building 885 Drum Storage Site (SWMU Ref. No. 177)

Building 885, immediately south of Building 881, is currently used for satellite collection and 90-day accumulation of RCRA regulated wastes. The building will be closed under RCRA Interim Status (40 CFR 265). Complete information on this solid waste

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			J.					
é Amelyte	† `	Unite	Rocky Flats Alluvium (11 Samples)	Colluvium (2 Samples)	Valley fill Alluvium (8 Samples)	Heathered Claystene (4 Semples)	Heathered Sandstone (2 Samples)	Unweithered Sandatone (7 Samples)
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Carbonate		<b>;</b> ; ;		9 <b>9</b> 44	2 <b>2</b> 2	2 00	<b>8</b> §	46
	g T i gare p _{free} r ght nag Mi	777	15.6 65.1	20° 86° 0.18°	46.29 150 6.69	; ::=	15° 	607 950 <b>6.</b> 610
	· *	<b>7</b> :	3.5	7.4* (7.1)**	8.68 (6.12)	0.0036* 8.2* (7.4)**	7.5* (7.2)**	10.57 (7.43)
Pleasived Redi	dianelides	`	•				۔	
Grees Alpha Press Bets	<u>.</u>		12.543	2.2	13.515	<u>r</u>	たね	44
Uranius 253, Uranius 255	ភ	<u> </u>	1.647	11. 0.3*	6.461	. v. c.	<u>-</u> 8	22.936 0.135
Urenium 238 Streetium 89.		<u> </u>	0.195 0.552	たこ	5.064 0.878	3.2 0.1	••• •••	3.3507 0.2*
Plutenium 239	9%.	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	6.00 0.00	88	6.012 0.012	0.03	• • • • • • • • • • • • • • • • • • •	6.600 6.019
	-	pc(/1	309		9.776 505	100	100-	¥.0.E
.: 20	Maximum Detected Value Minimum Detected Value Not Detected at Contract Tolerance Interval Lower	5 5	Required Detection Limit Limit for Two-Sided Perameter	#te				

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PACCENCIAD CROUND-LATER (ROUND 1) TOLERANCE INTERNAL UPPER LIHITS OR MAXIMAN DETECTED VALUE

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TABLE 2-1 (cont.)

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TABLE 2-2 (cont.)	COCUMO SURFACE UNTER (NOUNDS 1 and YOLERANCE DIFFERMAL UPPER LIMITS
TABLE 2	CACUMO SURFACE I

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Analyte	. mite	Round 1 (9 samples) Total Dissolved	omples) Dissolved	Round 2 (7 samples) Jotal Dissolved	pissolved
Other	r				
Total Dissolved Solids	· · · · · · · · · · · · · · · · · · ·	329.52	<b>1</b>	365.15	¥ #
Sicorbonate		369.72	I <b>S</b>	344.21	4
Chieride	7	= : ::	<b>\$</b> :	3; 3;	<b>S</b> :
Sulfate Missie		86.8 2.65	<b>4</b> 4	2.7	<b>£ \$</b>
Cymide	5	9	<b>1</b>	0.0043*	4
<b>E</b> .	17	9.02 (5.89)	¥	6.3 (6.44)	¥
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Uranium 233, 234	738	1.250	3.684	1.326	4
	PC!/	0.106	38.0	9.90 C.	<b>\$</b> :
		2.75	1.452	1.243	<b>£ \$</b>
Plutanium 239, 240	7/38	1.06	0.017	0.112	í <b>≦</b>
77	>	111.0	410.0	4.014	1
Cectum 137	> > 0	12.786	0.591	1.059	#
Tritie	pc1/1	992	<b>1</b>	3	<b>≦</b>

- Not Analyzed
- Not Detected
- Maximum Detected Value
- Tolerance Interval Lower Limit for Two-Sided Parameter

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JANUARY 1900 PAGE 2-23 TABLE 2-3 (cark.)

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TOLERANCE INTERNAL UPPER LIMITS OR NAXIMAN DETECTED VALUE BACKGROUND SEDIMENT

Analyte	Unite	Upper (14- Limit (9 Samples)
Other Hitrate .	<b>&gt;</b> :	######################################
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Grees Alpha Gross Bets Uranium 235, 234 Uranium 236 Strontium 239, 90 Plutonium 239, 240 Americium 241		50 2.0 2.0 2.1.7 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0
Tritium	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	90,40

Not Detected Maximum Detected Value Telerance Interval Lower Limit for Two-Sided Parameter

DRAFT PHASE III RI/PS WORK PLAN - 861 HILLSIDE AREA ROCKY PLATS PLANT, GOLDEN, COLORADO 44&4\881\ri-6\sec-2.jan

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" advadong kagin		TABLE 2-4 (cent.) BACKERGIND GEGLOGIC HATERIALS TOLEDANCE INTERVAL UPPER LINITS OR HAXIMIN DETECTED VALUE	K.) Materials Per Linits D'Valle		
Analyte	, mits	Rocky Flats Alluvium (70 Samples)	Collurium (28 Samples)	Heathered Claystene (17 Sumples)	Heathered Sandstone (4 Samples)
Francis of Other Sulfide Hitrate Ph	100	13° 4.3° 9.64 (6.06)	5* 4.274 9.48 (6.96)	5. 2.0° 10.14 (7.04)	
Intel Redionaciides Gross Alpha Gross Bota Uranium 233, 234 Uranium 235, 244 Uranium 236 Strahtium 29, 90 Plutenium 239, 240 Americium 241 Cesium 137		37.108 36.886 1.491 1.353 0.768 0.017 0.018	51.710 35.135 1.759 0.169 1.675 0.023 0.299	22.302 23.702 2.703 2.000 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.200 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.000 2.00	₩ % 0 0 0 0 0 <b>%</b> 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
MR - Mot Bet M - Mattena - Mattena - Minima	ected it Received Detected Value Detected Value or Interval Louer	Limit for Two-Sided Parameter			

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Volatile chlorinated hydrocarbon contamination is apparently not extensive. It occurred in soils from only 3 of the 23 boreholes [(BH01-87 (SWMUs 107 and 177), BH57-87 (SWMU 119.1), and BH58-87 (SWMU 119.2)]. The highest concentrations detected were tetrachloroethene (PCE) at 190 micrograms per kilogram ( $\mu$ g/kg) in BH01-87, trichloroethene (TCE) at 150  $\mu$ g/kg in BH57-87, and 1,1,1-trichoroethane (1,1,1-TCA) at 110  $\mu$ g/kg in BH57-87.

Boreholes will be drilled and samples collected from all SWMUs for organic analysis during the Phase III RI. The single most important reason for this activity is that previous volatile organic data have been rejected. The collection of these additional data is necessary to determine whether methylene chloride, acetone, and phthalates are soil contaminants. However, additional soil sampling is also needed to verify SWMU locations; to assess the vertical and horizontal distribution of organic contamination; and to identify maximum concentrations of contaminants in suspected "hot spots".

#### 2.3.2.2 Metals

In general, metal concentrations in soil samples from Rocky Flats Alluvium, colluvium and claystone were within background levels. Trace metals which occurred above background in these three materials include: antimony (3.4%), arsenic (30.3%), mercury (5.6%), cadmium (60.7%), manganese (1.1%), and barium (6.7%). Parenthesis indicate percent of the samples exceeding the background range. These metal concentrations occurred randomly throughout the 881 Hillside soils, and did not exceed a factor of two of the upper limit of the background tolerance interval or range. The upper limit of background for cadmium is based on a maximum detected value rather than a tolerance interval. Thus, the cadmium concentrations in 881 Hillside colluvium and claystone may actually be statistically insignificant relative to background.

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#### 2.3.2.3 Radionuclides

Radionuclide concentrations have been compared to the upper limit of the background tolerance interval or background range as appropriate. However, this comparison requires consideration of the following information regarding error terms.

Radionuclides are analyzed by counting sub-atomic particle emissions, which is a random function. Since radioactive disintegration is a statistical process and therefore has a probability distribution, results are reported as a measured value with an associated two standard deviation propagated error term following the measured value. Radionuclide concentrations where the error term is larger than the measured value can be considered not statistically different from background because of the significant overlap of the probability distributions. On the other hand, if the measured value minus the error term for a sample is greater than the measured value plus the error term for the upper limit of the background range, it can be considered statistically different from background.

Table 2-7 presents the percent of samples for each radionuclide detected above background at the surface and in the subsurface. Plutonium and americium were only detected above background in surface soils (maximum concentrations were 0.91 ± 0.38 picoCuries per gram (pCi/g) and 0.15 ± 0.13 pCi/g, respectively). The origin of this contamination is likely the 903 Pad Area resulting from wind dissemination of plutonium/americium contaminated dust. Because surface samples are 12 to 24 inch composites, actual near surface concentrations are much higher. More recently collected data for plutonium, uranium 238, and uranium 233 + 234 concentrations in surface scrape samples are presented in Table 2-8 (U. S. DOE, 1989). Sample locations are shown in Figure 2-7. It can be seen that plutonium concentrations were as high as 4.8 pCi/g in surface soils at the 881 Hillside Area. These concentrations are typical of surface plutonium concentrations in this vicinity and to the east within the Plant boundary based on sampling performed by Rockwell International's Health, Safety and Environment Department (Rockwell International, 1987b). High uranium

TABLE 2-7
PERCENT OF SOIL SAMPLES WITH RADIONUCLIDES ABOVE BACKGROUND

Radionuclide	Percent of Surface Samples Above Background	Percent of Subsurface Samples Above Background
Uranium (Total)	6 .	6
Plutonium 239 + 240	11	0
Americium 241	6	. 0
Cesium 137	17	7
Tritium	6	3

TABLE 2-8

## 881 HILLSIDE 1988 SURFACE SCRAPE SAMPLING RESULTS

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# RADIONUCLIDE CONCENTRATION IN pCI/2

Sample No.	Uranium 233 + 234	Uranium 238	Plutonium	
881-1	0.56±0,26	0.6±0.15	4.3±0.5	
881-2	0.78±0.26	0.86±0.15	2.4±0.2	•
881-3	0. <b>82±0.2</b> 6	0.91±0.15	4.8±0.5	
881-4	1.0±0.3	0.97±0.2	0.18±0.006	
<b>88</b> 1-5	0.86±0.26	0.88±0.15	0.59±0.008	
881-6	1.5±0.3	5.5±0.5	2.2±0.2	
881-7	0.74±0.26	0.75±0.15	0.63±0.09	
881-8	0.86±0.26	0.82±0.15	1.8±0.2	
881-9	3.1±0.3	1.0±0.2	0.47±0.006	
881-10	1.1±0.3	0.98±0.2	3.5±0.4	
881-11	1.0±0.3	1.3±0.2	2.6±0.3	
881-12	0.93±0.26	1.4±0.2	0.4±0.06	
881-13	0.94±0.26	1.3±0.2	0.16±0.06	
881-14	1.1±0.3	1.0±0.2	3.0±0.4	
881-15	2.0±0.3	1.5±0.16	0.01±0.06	
881-16	50±190	1300±100	0.3±0.06	
881-17	19±74	590±70	0.78±0.19	
881-18	60±230	3000±300	0.42±0.08	
881-19 ( \	10±740	550±60	0.09±0.06	
) )	,			
v	.0			
. 5	sp, map			

Data from: U.S. DOE, 1989

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Draft Phase III ri/fs work plan – 261 millside arra Rocky flats flant, golden, golorado eg&g\881\ri-&\sec-2.jen JANUARY 1900 PAGE 2-40

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concentrations occurred in samples 16 through 19. Depleted uranium which is used at the Rocky Flat Plant has a uranium 233 + 234 to uranium 238 activity ratio of 0.38, whereas natural uranium has a ratio of 1.11. The uranium isotope ratios for these surface soils indicate the uranium is depleted (low ratio). The contamination presumably resulted from drums that had leaked in the past, or from past spills. They were initially discovered during a FIDLER survey of the area during the Phase II RI. Each contaminated area is small (less than ten square feet in area).

Referring again to Table 2-7, uranium, cesium, and tritium occur infrequently above background and occur at depth (Appendix A). None of these radionuclides were present above background by more than a factor of two above the upper tolerance interval. The uranium 233 + 234 to uranium 238 activity ratios are greater than one indicating the uranium is natural. Because there has never been a criticality at Rocky Flats Plant, the cesium 137 is presumed to be due to fallout (Rockwell International, _____). This suggests that these radionuclide concentrations may represent natural variations outside the background tolerance intervals.

## 2.3.3 Ground Water

Ground water at the 881 Hillside occurs in alluvium, colluvium, valley fill alluvium, and weathered and unweathered bedrock. The discussion of ground-water quality is subdivided by SWMU groupings. Ground water at or downgradient of SWMUs 102, 103, 105, 106, 107 and 145 is discussed first. These SWMUs are in close proximity to each other. A discussion of ground water at or downgradient of SWMUs 119.1, 119.2 and 130 follows.

Within each SWMU grouping, the discussion-of chemistry has been subdivided into ground water in surficial material (Rocky Flats Alluvium, colluvium and valley fill alluvium) and weathered bedrock (unconfined flow system), and ground water in unweathered bedrock

DRAFT PHASE III RI/FS WORK PLAN - 801 HILLSIDE AREA ROCKY FLATS PLANT, GOLDEN, COLORADO opiky881\ni-6\see-2.jen

JANUARY 1900 PAGE 2-42 69-89, these wells were either dry or contained insufficient water for chemical analysis during first quarter 1988. Although wells 1-87 and 68-86 are upgradient of these SWMUs, groundwater quality in these wells is occasionally above background with respect to certain major ions, trace metals and organics as discussed below. Ground-water quality in these wells may be affected by Plant activities upgradient of 881 Hillside, and additional wells will be installed upgradient of the 881 Hillside Area.

Of the wells downgradient from these SWMUs, organics were not detected during the second quarter 1989; however, it is noted that wells 52-87 and 2-87 had detectable volatile organics during first quarter 1989. PCE was estimated below detection limits in both wells at concentrations of 2J micrograms per liter ( $\mu$ g/l) and 35J  $\mu$ g/l, respectively. TCE was also estimated below detection limits in well 2-87 at a concentration of 2J  $\mu$ g/l. With the exception of well 69-86, the remaining wells were dry during first quarter and second quarter 1989.

Ground-water quality data from wells 52-87, 69-86, and 2-87 indicate inorganic contamination exists. Total dissolved solids (TDS) and major ion (calcium magnesium, sodium, chloride, sulfate, and bicarbonate) concentrations were higher than background during the first quarter 1988. Wells 69-86 and 2-87 also had nitrate levels present above background. Wells 2-87 and 52-87 contained elevated manganese; wells 2-87 and 69-86 contained elevated zinc; and wells 52-87 and 69-86 contained elevated strontium. Selenium was also above background in well 69-86. Gross alpha, gross beta, uranium 233 + 234, uranium 235, and uranium 238 were above background in wells 1-87 and 52-87, and uranium 235 and 238 were above background in well 69-86. Total uranium concentrations in these wells were in the range of 8 to 15 picoCuries per liter (pCi/l). Although metals and other inorganics data do not exist for well 1-87, the elevated uranium in this "upgradient" well suggests the general inorganics contamination and low level organic contamination in this area may not be from these SWMUs. There are no wells directly downgradient of these SWMUs in the valley fill alluvium, wells 58-86 and 68-86 were dry.

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TABLE 2-11
CHENICAL SPECIFIC ANABA
FOR CONFOUNDS AND ELEMENTS DETECTED
AT THE 881 HILLSIDE AREA

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· .	14	74 - TA	CONFORMS AT THE 8	FOR COPPORNOS AND ELEMENTS DETECTED AT THE 861 HILLSIDE ANEA	KTECTED EA	
in the second se	24	2.4.	. ALM. (1997)	Detection Lisit (ug/t)	Standerd Criteria or Guidence	Comment
Praenie Compounds						
Acetone		<b>5</b>	2	2	RCRA LDR is relevant and appropriate (REA)	ARAR is not exceeded
* . * Certon Tetrachloride	# ************************************	70072	**	••	CDH Surface Unter; Brinking Water Standard is applicable	ARAR is exceeded.
1,1 pichtorosthans	`	<b>1907</b> ;	2	•	NCBA Subport F, Appandix IX Substance is TBC	TBC is exceeded
1,2 Dichlorosthans	v	71	•	•	COM Surface Mater; Drinking Water Standard is applicable	ARAR is exceeded
1,1 Dichloroethers	**	79067	<b>~</b>	•	CDH Surface Water; Brinking Water Standard is applicable	ARAR is exceeded
Methylene Chloride		Ē	2	•	RCRA Subpart f is REA	ARAR is exceeded
1 Tetrachi aroathana	i	70065	2	*	CDH Surface Water; Fish and Water Ingestien Standard is applicable	ARAR is exceeded
Teluene		3	2420	•	CDH Surface Water; Brinking Water Standard is applicable	ARAR is not exceeded
1,1,1 Trichloroethene		15,000	902	•	CDH Surface Water; Drinking Mater Standard is applicable	ARAR is not exceeded
1,1,2 Trichlorethene		3	2	*	CDH Surface Water; Fish and Mater Ingestion Standard is applicable	ARAR is exceeded
Trichleroethene		11,000	•	w	CDH Surface Water; Drinking Mater Standard is applicable	ARAR is exceeded
Carbon Disulfide		æ	æ	•	CDH Surface Water; Drinking Mater Standard is applicable	ALAR is not exceeded

Draft Phase III Ri/PS work Plan - 361 Hillside area Rocky Flats Plant, Golden, Colorado egàs(381\ri-2\)sec-2.jan

JANUARY 1900 PAGE 2-73 TABLE 2-11 (cont'd)
CHENICAL SPECIFIC ARARS
FOR CONFOLNDS AND ELEMENTS DETECTED
AT THE 861 MILLSIDE AREA

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Chemical	#  by b	Maximum In 801 Hillside Area Alluvial Ground Water	ADAR (190/1)	Detection Limit (pci/l)	Standard Criteria or Guidance	Coment
Indience I des	,					
Gross Alpha	3 }	319	~	~	CDH Surface Mater Standard is applicable	ARAR is exceeded
Gross Beta	i S	<b>58</b>	•	•	CDM Surface Water Standard applicable	ARAR is exceeded
p_234,239,240		40.01 ^c	6.03	10.0	CDH Surface Water Standard Is applicable	ALAR is not exceeded
		40.01°	6.05	0.0	CDN Surface Water Standard is applicable	ARAR is not exceeded
m	,;	#	200	00	CDH Surface Water Standard is applicable	ARAR is exceeded
- 8.8us	1	9.6	•	-	CON Surface Vater Standard is applicable	ARAR is not exceeded
Uranium total	•	20.0	•	•	CDM Surface Water Standard is applicable	ARAR is exceeded

Maximum compound concentrations determined from first and second quarter 1969 data.
 Maximum compound concentrations determined from 1967 and 1968 database.
 Detection limit

- Detection timit
- Estimated below detection fimit
- Compound also present in blank
- To be considered
- Melow minimum detectable activity (MDA)

Detection limit exceeds ARARs

Draft Phase III Ri/FS Work Flan - 801 Hillside Arba Rocky Flats Plant, Golden, Colorado egis/881/xi-8/200-3.jon

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#### CARBON TETRACHLORIDE

Summary

Carbon tetrachloride is used as a industrial solvent and chemical intermediate. It is an animal carcinogen, causing liver tumors in mice rats and hamsters. Carbon tetrachloride also causes liver and kidney damage in animals and humans.

Chemical Formula CCl

IUPAC Name Tetrachloromethane

7

Important Synonyms and Trade Names Tetrachoromethane perchloromethane

### Chemical and Physical Properties

Molecular Weight 1538

Boiling Point 767°C

Melting Point 22 9°C

Specific Gravity 159 at 20°C (liquid)

53 vapor (gas) specific gravity

Solubility in Water: 800 mg/liter

Solubility in Organics: Miscible with alcohol, benzene, chloroform, ether and

carbon disuiside

Log Octanol/Water Partition Coefficient 264

Vapor Pressure 90 mm Hg at 20°C

Vapor Density 5.32

### Transport and Fate

Carbon tetrachloride has a high vapor pressure and therefore volatilizes rapidly into the atmosphere from surface water and probably from soil. It is relatively soluble in water and therefore would be expected to be transported in groundwater. Because of its high specific gravity, it may move independently from the groundwater as a nonaqueous phase liquid.

Carbon Tetrachloride Attachment 1

### Health Effects

Carbon tetrachloride was carcinogenic in mice rats and hamsters in all cases liver tumors were induced. In addition, mice also displayed a high incidence of tumors of the adrenal gland. Studies discussed by EPA (1980) on the mutagenic and teratogenic effects of carbon tetrachloride and its impact on reproduction are inconclusive. Carbon tetrachloride also causes both liver and kidney damage in animals and humans. One study in which guinea pigs were repeatedly exposed to carbon tetrachloride vapor for several months provided evidence of damage to the optic nerve and degeneration of the myelin sheath of the sciatic nerve.

### Regulations and Standards

Ambient Water Quality Criteria (US EPA)

### Aquatic Life

The available data are not adequate for establishing criteria. However EPA did report the lowest values known to cause toxicity in aquatic organisms

#### Freshwater

3

in the second of 
Acute toxicity 35 200 ug/lifer Chronic toxicity. No available data

#### Saltwater

Acute toxicity 50.000 ug/liter Chronic toxicity No available data

## Human Health

Estimates of the carcinogenic risks associated with lifetime exposure to carbon waterachloride at various concentrations in water are:

Risk 10-5	- · . · .	•	Concentration
	4. *	٠,	40 ug/liter 04 ug/liter
10-6		^ '	0 4 ug/liter
10 ^{.7}	م موميلان		004 ug/liter

CAG Unit Risk (US EPA): 1.3 x 10⁻¹ (mg/kg/day)⁻¹

OSHA Standard (air): 10 ppm TWA

25 ppm Ceiling Level

ACGIH Threshold Limit Value: 5 ppm Skin.

Carbon Tetrachloride Attachment 1

#### 1.1-DICHLOROETHANE

## **Summary**

1.1 Dichloroethane is quite volatile and probably is not very persistent in aquatic environments. Inhalation exposure to high doses causes central nervous system depression in humans and may cause hepatotoxicity. In animals, high doses cause liver and kidney damage and retard fetal development.

CAS Number 75-34-3

Chemical Formula CH3CHCl2

IUPAC Name 11-Dichloroethane

Important Synonyms and Trade names Ethylidene chloride ethylidene dichloride

### Chemical and Physical Properties

Molecular Weight. 98.96

Boiling Point 573°C

Melting Point -970°C

Specific Gravity: 1 1776 at 20°C

Solubility in Water: 5 g/liter

Solubility in Organics: Miscible in alcohol

Log Octanol/Water Partition Coefficient: 179

Vapor Pressure: 180 mm Hg at 20°C

#### Transport and Fate

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1.1-Dichloroethane disperses from surface water primarily by volatilization into the troposphere, where it is subsequently broken down by hydroxylation. No studies on adsorption were found in the literature reviewed, but because of its water solubility and relatively low log octanol/water partition coefficient, 1.1-dichloroethane potentially could move through soil and enter the groundwater

1 1-Dichloroethane Attachment 1

## Health Effects

Limited toxicological testing of 11-dichloroethane has been conducted although the literature indicates that 11-dichloroethane is one of the least toxic of the chlorinated ethanes. An NCI bioassay on 11-dichloroethane was limited by poor survival of test animals but some marginal tumorigenic effects were seen. Inhalation exposure to high doses of 1.1-dichloroethane (over 16000 mg/m³) caused retarded tetal development in rats. 1.1-Dichloroethane was not found to be mutagenic using the Ames assay. 11-Dichloroethane causes central nervous system depression when inhaled at high concentrations and evidence suggests that the compound is hepatotoxic in humans. Kidney and liver damage was seen in animals exposed to high levels of 11-dichloroethane. The oral LD₅₀ value in the rat is 725 mg kg.

## Regulations and Standards

Ambient Water Quality Criteria (US EPA)

The available data were inadequate for establishing criteria

OSHA Standard (air) 400 mg m3 TWA

ACGIH Threshold Limit Value 810 mg m3 TWA - 200 ppm

1 1-Dichloroethane
Attachment 1

Page ?

#### 1.2.DICHLOROETHANE

## Summary

1.2-Dichloroethane (ethylene dichloride) is a volatile organic solvent and volatilization and percolation into groundwater may be significant toutes of transport. It has a low solubility in water and may be a component in non-queousphase liquids. 1.2-Dichloroethane is carcinogenic in animals and mutagenic in bacterial test systems, it is a suspected human carcinogen.

CAS Number: 107-06-02

Chemical Formula. CH,ClCH,Cl

IUPAC Name 12-Dichloroethane

Important Synonyms and Trade Names Ethylene dichloride, glycol dichloride

## Chemical and Physical Properties

Molecular Weight 98 96

Boiling Point 83-84°C

Melting Point -35 4°C

Specific Gravity 1 253 at 20°C

Solubility in Water 8 g/liter

Solubility in Organics: Miscible with alcohol, chloroform, and ether

Log Octanol, Water Partition Coefficient 148

Vapor Pressure 61 mm Hg at 20°C

Flash Point 15°C (closed cup)

# Transport and Fate

The primary method of dispersion from surface water for 1.2-dichloroethane is volatilization. In the atmosphere 1.2-dichloroethane is rapidly broken down by hydroxylation although some may be absorbed by atmospheric water and return to the earth by precipitation. No studies on the adsorption of 1.2-dichloroethane onto soil were reported in the literature examined. However, 1.2-dichloroethane has a low octanol/water partition coefficient is slightly soluble in water and therefore leaching through the soil into the groundwater is an expected route of dispersal

1 2-Dichloroethane Attachment I Page i

### Health Effects

I 2-Dichloroethane is carcinogenic in rats and mice producing a variety of rumors. When administered by gavage it produced carcinomas of the forestomach and hemangiosarcomas of the circulatory system in male rats adenocarcinomas of the mammary gland in female rats lung adenomas in male mice and lung adenomas mammary adenocarcinomas, and endometrial tumors in female mice. It is mutagenic when tested using bacterial test systems. Human exposure by inhalation to 1.2 dichloroethane has been shown to cause headache dizziness, nausea and liver and kidney dysfunction. Dermatitis may be produced by skin contact. In severe cases leukocytosis (an excess of white blood cells) may be diagnosed and internal hemorrhaging and pulmonary edema leading to death may occur. Similar effects are produced in experimental animals.

#### Regulations and Standards

Ambient Water Quality Criteria (US EPA)

#### Aquatic Life

The available data are not adequate for establishing criteria. However EPA did report the lowest values known to be toxic in aquatic organisms

#### Freshwater

Acute toxicity 118 mg/liter Chronic toxicity 20 mg/liter

#### Saltwater

Acute toxicity 113 mg/liter Chronic toxicity No available data

### Human Health

Estimates of the carcinogenic risks associated with lifetime exposure to various concentrations of 1.2-dichloroethane in water are

Risk	Concentration
10-3	9 4 ug/liter
10-6	094 ug/liter
10-7	0 094 ug/liter

1 2-Dichloroethane Attachment I

#### 1 1-DICHLOROETHYLENE

### Summary

1 1-Dichloroethylene (VDC -invlidene chloride) caused kidney tumors (in males only) and leukemia in one study of mice exposed by inhalation but the results of other studies were equivocal or negative. 11-Dichloroethvlene is mutagenic and it caused adverse reproductive effects when administered to rats and rabbits by inhalation Chronic exposure causes liver damage and acute exposure to high doses produces nervous system damage

CAS Number 75-35-4

Chemical Formula CH.CCl.

IUPAC Name 11-Dichloroethene

Vinvlidene chloride VDC 11-Important Synonyms and Trade Names dichloroethene, i 1-DCE

## Chemical and Physical Properties

Atomic Weight. 9694

Boiling Point 37°C

Melting Point -1221°C

Specific Gravity 1 218 at 20°C

Solubility in Water 400 mg/liter at 20°C

Solubility in Organics: Sparingly soluble in alcohol. ether. acetone. benzene. and

chloroform

Log Octanoli Water Partition Coefficient. 1 48

Vapor Pressure 500 mm Hg at 20°C

Vapor Density 3 25

1 1-Dichloroethvlene Attachment 1

#### Transport and Fate

Volatilization appears to be the primary transport process for 1 1-dichloroethylene (VDC), and its subsequent photooxidation in the atmosphere by reaction with hydroxyl radicals is apparently the predominant fate process. Information on other transport and fate mechanisms was generally lacking for 1 1 dichloroethylene. However by inference from related compounds hydrolysis sorption bioaccumulation biotransformation, and biodegradation probably all occur but at rates too slow to be of much significance.

### Health Effects

1 1-Dichloroethylene caused kidney tumors in males and leukemia in males and females in one study of mice exposed by inhalation gave equivocal results in other inhalation studies, and gave negative results in rats and mice following oral exposure and in hamsters following inhalation exposure. VDC was mutagenic in several bacterial assays. 1,1-Dichloroethylene did not appear to be teratogenic but did cause embryotoxicity and fetotoxicity when administered to rats and rabbits by inhalation. Chronic exposure to oral doses of VDC as low as 5 mg, kg day caused liver changes in rats. Acute exposure to high doses causes central nervous system depression but neurotoxicity has not been associated with low-level chronic exposure. The oral LD₅₀ value for the rat is 1,500 mg/kg, and for the mouse it is 200 mg/kg.

### Regulations and Standards

Ambient Water Quality Criteria (US EPA)

# Aquatic Life

The available data are inadequate for establishing criteria. However, EPA did report the lowest values known to cause toxicity in aquatic organisms

#### Freshwater

Acute toxicity 11.600 ug/liter Chronic toxicity. No available data

Saltwater

Acute toxicity: 224 000 ug/liter Chronic toxicity: No available data

1 1-Dichloroethviene Attachment 1

# Human Health

Estimates of the carcinogenic risks associated with lifetime exposure to various concentrations of 1.2 dichloroethane in water are

Risk	•	<u>Concentration</u>
<u> R يعلم</u> 10		0.33 ug/liter
10.0		0 033 ug, liter
10-7		0 0033 ug liter

CAG Unit Risk (US EPA) 116 (mg kg day)

ACGIH Threshold Limit Value 5 ppm TWA 20 mg m³ TWA 485 mg, m³ STEL

1 1-Dichloroethylene Attachment 1

#### METHYLENE CIILORIDE

#### Summary

Methylene chloride increased the incidence of lung and liver tumors and sarcomas in rats and mice. It was found to be mutagenic in bacterial test systems. In humans, methylene chloride irritates the eyes, mucous membranes, and skin. Exposure to high levels adversely affects the central and peripheral nervous systems and the heart. In experimental animals, methylene chloride is reported to cause kidney and liver damage, convulsions, and paresis

CAS Number: 75-09-2

Chemical Formula CH2Cl2

IUPAC Name Dichloromethane

Important Synonyms and Trade names. Methylene dichloride, methane dichloride

### Chemical and Physical Properties

Molecular Weight: 84.93

Boiling Point. 40°C

Melting Point -951°C

Specific Gravity: 1.3266 at 20°C

Solubility in Water: 13.200-20,000 mg/liter at 25°C

Solubility in Organics: Miscible with alcohol and ether

Log Octanol/Water Partition Coefficient 1.25

Vapor Pressure: 362.4 mm Hg at 20°C

Vapor Density 2.93

### Transport and Fate

Volatilization to the atmosphere appears to be the major mechanism for removal of methylene chloride from aquatic systems and its primary environmental transport process. Photooxidation in the troposphere appears to be the dominant environmental fate of methylene chloride. Once in the troposphere, the compound is attacked by

Methylene Chloride Attachment 1

hvdroxvi radicals, resulting in the formation of carbon dioxide, and to a lesser extent carbon monoxide and phosgene. Phosgene is readily hvdrolvzed to HCl and CO₂ About one percent of tropospheric methylene chloride would be expected to reach the stratosphere where it would probably undergo photodissociation resulting from interaction with high energy ultraviolet radiation. Aerial transport of methylene chloride is partly responsible for its relatively wide environmental distribution Atmospheric methylene chloride may be returned to the earth in precipitation

Photolysis, oxidation, and hydrolysis do not appear to be significant environmental fate processes for methylene chloride, and there is no evidence to suggest that either adsorption or bioaccumulation are important fate processes for this chemical Although methylene chloride is potentially biodegradable, especially by acclimatized microorganisms, biodegradation probably only occurs at a very slow rate

#### Health Effects

Methylene chloride is currently under review by the National Toxicology Program Preliminary results indicate that it produced an increased incidence of lung and liver tumors in mice and mammary tumors in female and male rats. In a chronic inhalation study, male rats exhibited an increased incidence of sarcomas in the ventral neck region. However, the authors suggested that the relevance and toxicological significance of this finding were uncertain in light of available toxicity data. Methylene chloride is reported to be mutagenic in bacterial test systems. It also has produced positive results in the Fisher rat embryo cell transformation test. However, it has been suggested that the observed cell-transforming capability may have been due to impurities in the test material. There is no conclusive evidence that methylene chloride can produce teratogenic effects.

In humans, direct contact with methylene chloride produces eye, respiratory passage, and skin irritation. Mild poisoning due to inhalation exposure produce somnolence, lassitude, numbness and tingling of the limbs, anorexia, and lightheadedness, followed by rapid and complete recovery. More severe poisoning generally involve correspondingly greater disturbances of the central and peripheral nervous systems. Methylene chloride also has acute toxic effects on the heart, including the induction of arrhythmia. Fatalities reportedly due to methylene chloride exposure have been attributed to cardiac injury and heart failure. Methylene chloride is metabolized to carbon monoxide in vivo, and levels of carboxyhemoglobin in the blood are elevated after acute exposures. In experimental animals, methylene chloride is reported to cause kidney and liver damage, convulsions, and distal paresis. An oral LD₅₀ value of 2.136 mg/kg, and an inhalation LC₅₀ value of 88,000 mg/m³/30 min are reported for the rat.

### Regulations and Standards

Ambient Water Quality Criteria (US EPA):

Aquatic Life

The available data are not adequate for establishing criteria.

Methylene Chloride Attachment 1

## Human Health

124 mg/liter (for protection against the noncarcinogenic effects Criterion. of methylene chloride)

CAG Unit Risk (US EPA): 14 x 10⁻² (mg/kg/dav)⁻¹

NIOSH Recommended Standards:

261 mg/m 3  TWA in the presence of no more than 99 mg/m 3  of CO 1.737 mg/m 3 /15 min Peak Concentration

OSHA Standard

1.737 mg/m³ TWA
3.474 mg/m³ Ceiling Level
6.948 mg/m³ Peak Concentration (5 min in any 3 hr)

ACGISH Threshold Limit Value

350 mg/m³ TWA 100 ppm TWA 1 740 mg/m³ STEL 500 ppm STEL

Methylene Chloride Attachment 1

#### **TETRACHLOROETHYLENE**

#### Summary

Tetrachloroethylene (PCE, perchloroethylene) induced liver tumors when administered orally to mice and was found to be mutagenic using a microbial assay system Reproduction toxicity was observed in pregnant rats and mice exposed to high concentrations. Animals exposed by inhalation to tetrachloroethylene exhibited liver kidney, and central nervous system damage

CAS Number 127-18-4

Chemical Formula. C,Cl,

IUPAC Name. Tetrachloroethene

Important Synonyms and Trade Names. Perchloroethylene. PCE

## Chemical and Physical Properties

Molecular Weight. 165 83

Boiling Point: 121°C

Melting Point: -22.7°C

Specific Gravity: 163

Solubility in Water 150 to 200 mg/liter at 20°C

Solubility in Organics: Soluble in alcohol, ether, and benzene

-Log Octanol/Water Partition Coefficient 288

Vapor Pressure: 14 mm Hg at 20°C

### Transport and Fate

Tetrachioroethylene (PCE) rapidly volatilizes into the atmosphere where it reacts with hydroxyl radicals to produce HCl. CO, CO₂, and carboxylic acid. This is probably the most important transport and fate process for tetrachloroethylene in the environment PCE will leach into the groundwater, especially in soils of low organic content. In soils with high levels of organics, PCE adsorbs to these materials and can be bioaccumulated to some degree. However, it is unclear if tetrachloroethylene bound to organic material can be degraded by microorganisms or must be desorbed to be destroyed. There is some evidence that higher organisms can metabolize PCE

Tetrachloroethylene Attachment 1

### Health Effects

Tetrachloroethylene was found to produce liver cancer in male and female mice when administered orally by gavage. Unpublished gavage studies in rats and mice performed by the National Toxicology Program (NTP) showed hepatocellular carcinomas in mice and a slight statistically insignificant increase in a rare type of kidney tumor NTP is also conducting an inhalation carcinogenicity study. Elevated mutagenic activity was found in Salmonella strains treated with tetrachloroethylene Delayed ossification of skull bones and sternebrae were reported in offspring of pregnant mice exposed to 2,000 mg/m³ of tetrachloroethylene for 7 hours/day on days 6-15 of gestation. Increased fetal resorptions were observed after exposure of rats to tetrachloroethviene. Renal toxicity and hepatotoxicity have been noted following chronic inhalation exposure of rats to tetrachioroethylene Renal toxicity and hepatotoxicity have been noted following chronic inhalation exposure of rats to tetrachloroethylene levels of 1.356  $mg/m^3$  During the firs 2 weeks of a subchronic inhalation study, exposure to concentrations of 1 6222 ppm (10 867 mg/m³) of tetrachloroethylene produced signs of central nervous system depression and chloinergic stimulation was observed among rabbits monkers rats and guinea pigs

### Regulations and Standards

Ambient Water Quality Criteria (US EPA)

#### Aquatic Life

The available data are not adequate for establishing criteria. However, EPA did report the lowest values known to be toxic in aquatic organisms.

#### Freshwater

Acute toxicity: 5,280 ug/liter Chronic toxicity: 840 ug/liter

#### Saltwater

Acute toxicity: 10,200 ug/liter Chronic toxicity: 450 ug/liter

#### Human Health

Estimates of the carcinogenic risks associated with lifetime exposure to various concentrations of tetrachloroethylene in water are:

Risk	<u>Concentration</u>
R15k 10 ⁻⁵	8.0 ug/liter
10 ⁻⁶	08 ug/liter
10-7	008 ug/liter

Tetrachioroethylene Attachment 1

CAG Unit Risk (US EPA): 51 x 10⁻² (mg/kg/day)⁻¹

NIOSH Recommended Standards (air)²
335 mg/m³ TWA
670 mg/m³ 15-min Ceiling Level

OSHA Standard (air)

670 mg/m³ TWA 1.340 mg/m³ Ceiling Level 2.010 mg/m³ for 5 min every 3 hr. Peak Concentration

ACGIH Threshold Limit Value

50 ppm TWA 335 mg/m³ TWA 200 ppm STEL 1.340 mg/m³ STEL

Tetrachloroethylene Attachment 1

#### TOLUENE

### Summary

Toluene has been shown to be embryotoxic in experimental animals, and the incidence of cleft palate increased in the offspring of dosed mice. Chronic inhalation exposure to high levels of toluene caused cerebellar degeneration and an irreversible encephalopathy in animals. In humans, acute exposure depressed the central nervous system and caused narcosis.

CAS Number: 108-88-3

Chemical Formula C.H.CH.

IUPAC Name Methylbenzene

Important Synonyms and Trade Names Toluol. phenyimethane

### Chemical and Physical Properties

Molecular Weight. 92.13

Boiling Point: 110.6°C

Melting Point. -95°C

Specific Gravity: 0.8669 at 20°C

Solubility in Water 534.8 mg/liter

Solubility in Organics:

Soluble in acetone, ligroin, and carbon disulfide, miscible with alcohol, ether, benzene, chloroform, glacial acetic acid, and other organic solvents

Log Octanol/Water Partition Coefficient: 2.69.

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Vapor Pressure 28.7 mm Hg at 25°C

Vapor Density: 314

Flash Point, 44°C

Toluene Attachment 1

#### Transport and Fate

Volatilization appears to be the major route of removal of toluene from aquatic environments, and atmospheric reactions of toluene probably subordinate all other fate processes. Photooxidation is the primary atmospheric fate process for toluene and benzaidehvde is reported to be the principal organic product. Subsequent precipitation or dry deposition can deposit toluene and its oxidation products into aquatic and terrestrial systems. Direct photolytic cleavage of toluene is energetically improbable in the troposphere, and oxidation and hydrolysis are probably not important as aquatic fates.

The log octanol/water partition coefficient of toluene indicates that sorption processes may be significant. However no specific environmental sorption studies are available, and the extent to which adsorption by sedimentary and suspended organic material may interfere with volatilization is unknown. Bioaccumulation is probably not an important environmental fate process. Although toluene is known to be degraded by microorganisms and can be detoxified and excreted by mammals the available data do not allow estimation of the relative importance of biodegradation/biotransformation processes. Almost all toluene discharged to the environment by industry is in the form of atmospheric emissions

### Health Effects

There is no conclusive evidence that toluene is carcinogenic or mutagenic in animals or humans. The National Toxicological Program is currently conducting an inhalation carcinogenicity bioassay in rats and mice

Oral administration of toluene at doses as low as 260 mg/kg produced a significant increase in embryonic lethality in mice. Decreased fetal weight was observed at doses as low as 434 mg/kg, and an increased incidence of cleft palate was seen at doses as low as 867 mg/kg. However, other researches have reported that toluene is embryotoxic but not teratogenic in laboratory animals. There are no accounts of a teratogenic effect in humans after exposure to toluene

Acute exposure to toluene at concentrations of 375-1,500 mg/kg produces central nervous system depression and narcosis in humans. However, even exposure to quantities sufficient to produce unconsciousness fail to produce residual organ damage. The rat oral LD₅₀ value and inhalation LC_{LO} value are 5.000 mg/kg and 15,000 mg/m³, respectively. Chronic inhalation exposure to toluene at relatively high concentrations produces cerebellar degeneration and an irreversible encephalopat in mammals.

Toluene in sufficient amounts appears to have the potential to alter significantly the metabolism and resulting bioactivity of certain chemicals. For example, coadministration of toluene along with benzene or styrene has been shown to suppress the metabolism of benzene or styrene in rats.

Toluene Attachment 1

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## Regulations and Standards

Ambient Water Quality Criteria (US EPA).

## Aquatic Life

The available data are not adequate for establishing criteria. However EPA did report the lowest values known to cause toxicity in aquatic organisms

#### Freshwater

Acute toxicity: 17 500 ug/liter Chronic toxicity. No available data

#### Saltwater

Acute toxicity 6 300 ug/liter Chronic toxicity 5 000 ug/liter

### Human Health

Criterion 143 mg/liter

NIOSH Recommended Standards: 375 mg/m³ TWA 560 mg/m³ STEL

OSHA Standards:

750 mg/m³ TWA 1,120 mg/m³ Ceiling Level

ACGIH Threshold Limit Value: 100 ppm TWA

375 mg/m³ TWA 150 ppm STEL 560 mg/m³ STEL

J. ~

Attachment 1

#### 1.1.1-TRICHLOROETHANE

### Summary

Preliminary results suggest that 1 1.1-trichloroethane (1 1 1-TCA) induces liver tumors in semale mice. It was shown to be mutagenic using the Ames assay and it causes transformation in cultured rat embryo cells. Inhalation exposure to high concentrations of 1,1.1-TCA depressed the central nervous system affected cardiovascular function; and damaged the lungs, liver, and kidneys in animals and humans. Irritation of the skin and mucous membranes has also been associated with human exposure to 1 1,1-trichloroethane.

CAS Number 71-55-6

Chemical Formula CH, CCl,

IUPAC Name 111-Trichloroethane

Important Synonyms and Trade Names. Methyl chloroform, chlorothene 111-TCA

### Chemical and Physical Properties

Molecular Weight 133.4

Boiling Point 741°C

Melting Point. -30 4°C

Specific Gravity 1.34 at 20°C (liquid)

Solubility in Water: 480-4.400 mg/liter at 20°C (several divergent values were reported in the literature)

Solubility in Organics: Soluble in acetone, benzene, carbon tetrachloride, methanol, ether, alcohol, and chlorinated solvents

Log Octanol/Water Partition Coefficient 2.17

Vapor Pressure 123 mm Hg at 20°C

Vapor Density 463

1 1.1-Trichloroethane Attachment 1

#### Transport and Fate

1 1.1-Trichloroethane (1.1.1-TCA) disperses from surface water primarily by volatilization. Several studies have indicated that 1.1.1-trichloroethane may be adsorbed onto organic materials in the sediment, but this is probably not an important route of elimination from surface water. 1.1.1-Trichloroethane can be transported in the groundwater, but the speed of transport depends on the composition of the soil

Photooxidation by reaction with hydroxyl radicals in the atmosphere is probably the principal fate process for this chemical

### Health Effects

1.1 1-Trichloroethane was retested for carcinogenicity because in a previous study by NCI, early lethality precluded assessment of carcinogenicity. Preliminary results indicate that 1.1 1-TCA increased the incidence of combined hepatocellular carcinomas and adenomas in female mice when administered by gavage. There is evidence that 1.1-trichloroethane is mutagenic in Salmonella typhimurium and causes transformation in cultured rat embryo cells. These data suggest that the chemical may be carcinogenic.

Other effects of 1.1,1-TCA are seen only at concentrations well above those likely in an open environment. The most notable toxic effects of 1,1,1-trichloroethane in humans and animals are central nervous system depression, including anesthesia at very high concentrations and impairment of coordination, equilibrium, and judgment at lower concentrations (350 ppm and above); cardiovascular effects, including premature ventricular contractions, decreased blood pressure, and sensitization to epinephrine-induced arrhythmia, and adverse effects on the lungs, liver, and kidneys Irritation of the skin and mucous membranes resulting from exposure to 11,1-trichloroethane has also been reported. The oral LD₅₀ value of 1,1,1-trichloroethane in rats is about 11,000 mg/kg

### Regulations and Standards

Ambient Water Quality Criteria (U.S. EPA):

# Aquatic Life

The available data are not adequate for establishing criteria. However, FPA did report, the lowest values of the two trichloroethanes (1.1.1 and 1.1.2) known to be toxic in aquatic organisms.

#### Freshwater

Acute toxicity: 18 mg/liter Chronic toxicity: 84 mg/liter

#### TRICHLOROETHYLENE

#### Summary

Trichloroethviene (TCE) induced hepatocellular carcinomas in mice and was mutagenic when tested using several microbial assav systems. Chronic inhalation exposure to high concentrations caused liver, kidney, and neural damage and dermatological reactions in animals

CAS Number 79-01-06

Chemical Formula C₂HCl₃

IUPAC Name: Trichloroethene

Important Synonyms and Trade Names Trichloroethene TCE, and ethylene trichloride

### Chemical and Physical Properties

Molecular Weight: 131.5

Boiling Point 87°C

Melting Point -73°C

Specific Gravity: 1.4642 at 20°C

Solubility in Water 1,000 mg/liter

Solubility in Organics: Soluble in alcohol, ether, acetone, and chloroform

Log Octanol/Water Partition Coefficient: 2.29

Vapor Pressure: 60 mm Hg at 20°C

Vapor Density: 453

### Transport and Fate

Trichloroethylene (TCE) rapidly volatilizes into the atmosphere where it reacts with hydroxyl radicals to produce hydrochloric acid, carbon monoxide, carbon dioxide, and carboxylic acid. This is probably the most important transport and fate process for trichloroethylene in surface water and in the upper layer of soil. TCE adsorbs to organic materials and can be bioaccumulated to some degree. However, it is unclear whether trichloroethylene bound to organic material can be degraded by

where we seek as a consistence

Trichloroethylene Attachment 1

### Saltwater

Acute toxicity 31.2 mg/liter Chronic toxicity No available data

## Human Health

Criterion 18.4 mg/liter

NIOSH Recommended Standard 350 ppm (1.910 mg/m³)/15 min Ceiling Level

OSHA Standard: 350 ppm (1,910 mg/m³) TWA

ACGIH Threshold Limit Value

350 ppm TWA 1 400 mg/m³ TWA 450 ppm STEL 2 450 mg/m³ STEL

#### 1.1.2-TRICHLOROETHANE

#### Summary

1 1 2-Trichloroethane induced liver tumors and pheochromocytomas in mice. It caused liver and kidney damage in dogs.

CAS Number 79-00-5

Chemical Formula: CH, ClCHCl,

IUPAC Name

1.1.2-Trichloroethane

Important Synonyms and Trade Names Vinyl trichloride, ethane trichloride

### Chemical and Physical Properties

Molecular Weight: 133 41

Boiling Point: 1338°C

Melting Point: -36.5°C

Specific Gravity 1.4397 at 25°C

Solubility in Water 4,500 mg/liter at 20°C

Solubility in Organics.

Soluble in alcohol, ether, and chloroform

Log Octanol/Water Partition Coefficient 2.17

Vapor Pressure 19 mm Hg at 20°C

Vapor Density: 463

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#### Transport and Fate

Volatilization and subsequent photooxidation in the troposphere are probably the primary transport and fate processes for 1,1,2-trichloroethane. Some sorption, bioaccumulation, and biodegradation may occur, but these processes are probably not very important processes for trichloroethane transport or fate.

1 1.2-Trichloroethane induced heptacellular carcinomas and pheochromocytoma of the adrenal gland in male and female mice but did not produce a significant increase in tumor incidence in male or female rats. It was not mutagenic when tested using the Ames assay. No information was found concerning the reproductive toxicity or

1 1.2-Trichloroethane Attachment 1

nicity of 11,2-trichloroethane. No chronic studies were found on the toxicity -trichloroethane but single doses as low as 400 mg/kg caused liver and kidney ogs. The oral LD₅₀ value for 1,1,2-trichloroethane in rats is 835 mg/kg

## ions and Standards

t Water Quality Criteria (US EPA)

## Aquatic Life

The available data are not sufficient for establishing criteria. However EPA iid report the lowest values known to be toxic in aquatic organisms

### reshwater

Acute toxicity 18,000 ug/liter Chronic toxicity 9 400 ug/liter

#### altwater

Acute toxicity. No available data Chronic toxicity. No available data

### iuman Health

Estimates of the carcinogenic risks associated with lifetime exposure to various oncentrations of 1.1.2-trichloroethane in water are:

R15k 10°5	Concentration
	6.0 ug/liter
10 ⁻⁶	06 ug/liter
10 ⁻⁷	0 06 ug/liter

nit Risk (U.S. EPA): 57 x 10⁻² (mg/kg/day)⁻¹:

Threshold Limit Value: 10 ppm TWA (skin)
45 mg/m³ TWA (skin)

reacts with dioxide, and process for adsorbs to t is unclear graded by

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Page i

microorganisms or must be desorbed to be destroyed. There is some evidence that higher organisms can metabolize TCE. Trichloroethylene leaches into the groundwater fairly readily, and it is a common contaminant of groundwater around hazardous waste sites.

#### Health Effects

Trichloroethylene is carcinogenic to mice after oral administration, producing hepatocellular carcinomas. It was found to be mutagenic using several microbial assay systems. Trichloroethylene does not appear to cause reproductive toxicity or teratogenicity. TCE has been shown to cause renal toxicity hepatotoxicity, neurotoxicity, and dermatological reactions in animals following chronic exposure to levels greater than 2,000 mg/m³ for 6 months. Trichloroethylene has low acute toxicity; the acute oral LD₅₀ value in several species ranged from 6,000 to 7,000 mg/kg

#### Regulations and Standards

Ambient Water Quality Criteria (US EPA)

#### Aquatic Life

The available data are not adequate for establishing criteria. However, EPA did report the lowest values known to have toxic effects in aquatic organisms.

#### Freshwater

Acute toxicity: 45 mg/liter Chronic toxicity: No available data

#### Saltwater

Acute toxicity: 2 mg/liter Chronic toxicity: No available data

## Human Health

Estimates of the carcinogenic risks associated with lifetime exposure to various concentrations of trichloroethylene in water are:

Risk	<u>Concentration</u>
10-5	27 ug/liter
10.6	2.7 ug/liter
10 ⁻⁷	0 27 ug/liter

Trichloroethylene Attachment 1 CAG Unit Risk (U.S EPA): 11 x 10-2 (mg/kg/day)-1

NIOSH Recommended Standards (air)
540 mg/m³ TWA
760 mg/m³ 10-min Ceiling Level

OSHA Standard (skin)

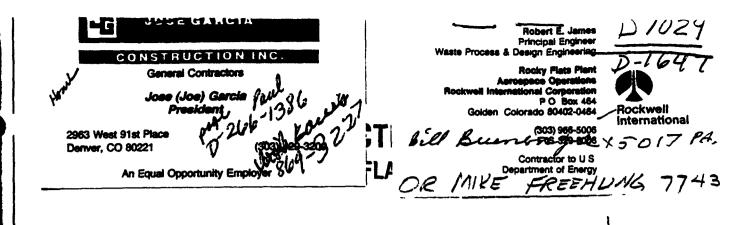
540 mg/m³ TWA 1,075 mg/m³/15-min Ceiling Level 1,620 mg/m³ for 5 min every 3 hr. Peak Concentration

ACGIH Threshold Limit Values.

50 ppm TWA 270 mg/m³ TWA 200 ppm STEL 1,080 mg/m³ STEL

Trichloroethylene Attachment 1

Construction Coordinator' Log



## **PROJECT NAME**

REMEDIAL ACTION, 881 HILLSIDE, PHASE I

FOUNDATION & SLAB PAD.

## **CONTRACT NUMBER**

58923JK AUTH # 986147

## **CONTRACTOR**

JOSE GARCIA CONSTRUCTION, INC.
PIOLO OFFICE PH 5154

P.A. Bill Breninga x5017

DE Mike Free hLING x7743

DE Bob JAMES x5004

Contract Admin. RJ. Russo x7703

DOE. D. COE

USER GREEDGALD

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CONTRACT NO: <u>58923</u> JK
JOB TITLE: Hill Side Building 89/
CONTRACTOR: JOSE GARCIA CONST
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TOTAL HOURS LOST:
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The delay described above has been agreed upon by the RI
representative and the contractor representative involved.
CONTRACTOR REP: Soul # Warnubier DATE 1-16-90
CONST. COORD
PROJECT ADM: Nu funinga DATE 1-16-90

AUTHORIZATION OR CONTRACT NO _____986147 WEATHER AMPM SUNNY ___DAY (LEDNESDAY SHEET 3 OF_ DATE_ CLOUDY Duran INSPECTOR RAIN SNOW **PROGRESS** < 40° F 40° - 60° F 60° - 80° F >80°F **WORK FORCE** SUPER **FOREMAN** CARPENTER CARPET LAYER " pel CEMENT FIN DRY WALL 700 ELECTRICIAN كك GLAZER INSTRUMENT INSULATOR IRON WORKER LABORER MASON MILLWRIGHT OPR ENGR DELAYS - mon 1/2 PAINTER Note. PIPE FITTER PLUMBER ROOFER ICE. SHEET METAL PROBLEMS/RESOLUTIONS TEAMSTER TILE SETTER maritos NO TOTAL REMARKS EQUIPMENT

	AUTHORIZATION OR CONTRACT NO 986 147
WEATHER AMPM	
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MILLWRIGHT	•
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1	WEATHER AMPM	AUTHORIZATION OR CONTRACT NO 986 147
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	>80° F	NOTED SIGNAD OFF WORK PERMIT
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		DELAYS none noted
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WEATHER AM	( PM	AUTHORIZATION OR CONTRACT NO 986 147
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WEATHER AMIPM	AUTHORIZATION OR CONTRACT NO 986147
SUNNY 4	DATE 1-23-90 DAY THESDAY SHEET 7 OF
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LABORER	Contrated ( PE) M. Freekling HE WOULD
MASON	APPLOVE IT. ALSO TO FOLLOWLE WITH
MILLWRIGHT	A SUBMITTAL DELIVERY DATE IS
OPR ENGR /	DELAYS ABOUT 4 WEEKS.
PAINTER	High wists for 12 day express. No
PIPE FITTER	WORK ONSITE.
PLUMBER	Some WEAK IN THERE TRAILER WAS
ROOFER	IN Oragress.
SHEET METAL	PROBLEMS/RESOLUTIONS
TEAMSTER	Contractor - DID NOT RECEIVE
TILE SETTER	THE RE-INFORCING STEEL (REBAR).
monitor NY 1	
TOTAL	REMARKS /
EQUIPMENT	Continuos Continuos To senvice de
Portable	
GNERMOR	MAINTHIN THE BATISLE GEN. OPERATION.
Pickap.	KEEPING THE AIR MONTTOR OD.
eice ap.	MEETING/SUBJECT
	- Safmon

DAILY LOST TIME REPORT

DATE 1-23-90

AUTHORIZATION NO: 986147

CONTRACT NO: <u>58923</u> TK

JOB TITLE: Hill side Building 891

CONTRACTOR: JOSE GARCIA

TIME OF DELAY FROM 7:00 am-pm TO 9:20 am-pm

TOTAL HOURS LOST: 2 20 min.

#### REASON FOR DELAY

High Winds - ordered by TKE DURAN

#### LIST OF MEN AND TRADES DELAYED

PAUL A Corperulias - FORMAN. Tony Sailas - CARPORTER TAMES SAILAS - CARporter

LIST OF EQUIPMENT DELAYED

The delay described above has been agreed upon by the RI representative and the contractor representative involved.

CONTRACTOR REP: Soul A Consonuliso DATE 1-21-90

CONST. COORD:

DATE 1-31-40

PROJECT ADM: \

DATE 2-2-90

WEATHER AM	РМ	AUTHORIZATION OR CO	NTRACT NO
SUNNY -	1	<u>.</u>	
CLOUDY		INSPECTOR 2. Due	DAY WEDNESDAY SHEET 8
RAIN		INSPECTOR	
SNOW		PROGRESS	
< 40° F		Chilinative .	tentral netting a harde
60° - 80° F	H	do vindous	and the short with wall
> 80° F		Some	/ Footer pade.
WORK FORCE	NO		
SUPER	/		
FOREMAN		(Interactor -	Concred sile, singued all
CARPENTER		loon	e meterial + clean us are
CARPET LAYER			
CEMENT FIN			
DRY WALL			
ELECTRICIAN		Work usmit.	uned off work extension
GLAZER		no held	or salety subley met
INSTRUMENT			
INSULATOR			
IRON WORKER			
LABORER	1.		
MASON			
MILLWRIGHT			
OPR ENGR		DELAYS more of	oled
PAINTER			
PIPE FITTER			
PLUMBER			
ROOFER			
SHEET METAL		PROBLEMS/RESOLUTION	NS
TEAMSTER		mone	
TILE SETTER			
monitor HP	1		
TOTAL		REMARKS	
EQUIPMENT			Tunies to service northle
Porlible De	n.	Sen de a	in monitor operation
mis Enal	u		
Pur took	]		
		MEETING/SUBJECT	
			- Ollum
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marine modeless to do it

WEATHER AM	<b>D</b>	AUTHORIZATION OR CONTRACT NO 986147
SUNNY	M	
CLOUDY	$\dashv$	DATE 1-25-90 DAY THURSDAY SHEET 9 OF
RAIN		INSPECTOR J Duran
SNOW		PROGRESS
< 40° F	<u></u>	
40° - 60° F	_	KEVIEWED Project NO SAFETY Problems
60° - 80° F		OR INFRACTION WERE NOOTED
>80°F	_	SIGNED OFF WORK PERMIT EXTENSION:
WORK FORCE	NO	
SUPER	$\bot$	Contrator - Continues week on
FOREMAN		SETTING UP FOTER PAD FORMS
CARPENTER	2	
CARPET LAYER		
CEMENT FIN		* HAD ENGINEERING RECHECH SITE
DRY WALL		OF BUILDING PAD FOR VERIFICAT
ELECTRICIAN		OF ELVI & LOCATION. DERIFING SOURCE
GLAZER		NOSS OF LAYOUT WORK.
INSTRUMENT		ENGINEERING STATED ITS LOCATED
INSULATOR		Correctly. (1" out of so) Contractor
IRON WORKER		CORRECTED ONE CORNER THAT WAS
LABORER	*	
MASON		HOVE BEEN VONIFIED ENG. TO
MILLWRIGHT		SEND ME COPY OF REPORT.
OPR ENGR	1	DELAYS
PAINTER		HI WINDS - OFF & ON ALL DURING THE DAY.
PIPE FITTER		Contratoe - MOST TWO HOURS IN THE
PLUMBER		mosping.
ROOFER		B. LA BONDS - CAVE RELEASE TO CO ON
SHEET METAL		PROBLEMS/RESOLUTIONS WITH CONST. & TO TAKE
TEAMSTER		to CARE WUTH AND PHING MATERIAL
TILE SETTER		AS LONG AS WORK WAS ON THE
MOUITOR		Ground.
TOTAL		REMARKS
EQUIPMENT		Contractor Continues to source Tomposes
PotiaBUS		Postible GEN. FOR ALL MON TOR
GEN.		OPERATION
Misa. Smar	سايل	
Puc. Tool		MEETING/SUBJECT
		Mun

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# DAILY LOST TIME REPORT

DATE 1-25-90

AUTHORIZATION NO: 986147

CONTRACT NO: 58923 JK

JOB TITLE: Hill Side Ruilding 891

CONTRACTOR: JOSO GARCIA CONST

TIME OF DELAY FROM 7.00 am-pm TO 9.00 am-pm

TOTAL HOURS LOST: 2

#### REASON FOR DELAY

High Winds - ordered by TKE DURAN

#### LIST OF MEN AND TRADES DELAYED

Paul Covarrubias - Forman Tony Sailas - CARponter James Sailas - CARponaer

### LIST OF EQUIPMENT DELAYED

The delay described above has been agreed upon by the RI representative and the contractor representative involved.

CONTRACTOR REP: Soul A Coumula

DATE 1-31-90

CONST. COORD:

DATE 1-31-90

PROJECT ADM: Win Benninga

DATE 2-1-90

WEATHER A	M DAA	AUTHORIZATION OR CONTRACT NO 986147
SUNNY	72	
CLOUDY	1	DATE 1- 26-90 DAY FRI DOY SHEET 1
RAIN	1	INSPECTOR
SNOW	7	LPROGRESS
< 40°F	7	
40° - 60° F		Laviewed Comptended SITE, NO proses
60° - 80° F		NOTED OR SAFETY INFRACTIONS
> 80° F	<u> </u>	Siguro of work Permit EXTENSION
WORK FORCE	NO	}
SUPER	11	
FOREMAN		CONTRACTOR - CONTINUES TO SET
CARPENTER		FOOTER FORMS & THENA
CARPET LAYER	3	Rebon Steel.
CEMENT FIN		
DRY WALL		
ELECTRICIAN		SITE COVERED AT END DE WORK
GLAZER		DAY AND ME LOOSE MATERIAL
INSTRUMENT		SECURED TENSH HAS BEEN COM
INSULATOR		•
IRON WORKER		
LABORER		Contractor continues to SERVICE
MASON	1	Portible Gen. For DIR MONITOR
MILLWRIGHT	T	Jom porany Dowoe
OPR ENGR	1	DELAYS
PAINTER		NONE NOTED
PIPE FITTER		
PLUMBER		
ROOFER		
SHEET METAL		PROBLEMS/RESOLUTIONS
TEAMSTER		NO- pur BLETTOS MATER
TILE SETTER		
Manifee H.F	? /	
TOTAL	1	REMARKS
EQUIPMENT		None.
PATAME G	EN,	
MISC. Somace		
Power Top	4	
		MEETING/SUBJECT

me on a Table of the Marketine

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WEATHER AM	РМ	AUTHORIZATION OR CONTRACT NO 986147
SUNNY 4		DATE
CLOUDY - 1.		
RAIN AND		INSPECTOR
SNOW C	4	PROGRESS
40° - 60° F		REVIED PROJECT AND SIGNED OFF LOOPEK
60° - 80° F		PERMIT EXTENSION
> 80° F		
WORK FORCE	NO	ALL WORK CLOSE DOWN PER PLANT
SUPER	7	SHIFT. SUPT.
FOREMAN	/	
CARPENTER	8	ApprovaL - To procede with.
CARPET LAYER		SETTING RE-BAR AND FOOTIN
CEMENT FIN		FORMS.
DRY WALL		
ELECTRICIAN		TESTING REP. TOOK tests ON
GLAZER		Compaction. No problems
INSTRUMENT		NOTED. RESULTS OF TESTS
INSULATOR		WERE 95 % plas Comportion
IRON WORKER		- A NOWE DISTRUBED SOIL. TEX
LABORER	7	THE SOME.
MASON	-	CONTRACTOR CONTINUES TO SERVICE
MILLWRIGHT	$\vdash$	PORTIBLE GEN. FOR AIR MONNIER DOWNE
OPR ENGR	1	DELAYS
PAINTER	-	HIGH WINDS , PLANT SHIFT SUP! FOR OVER
PIPE FITTER		HALF DAY.
PLUMBER		mar way.
ROOFER	$\vdash$	De la sa la
SHEET METAL		DELAGED STEEL & TO FORM SETTING WORK
TEAMSTER	$\vdash$	PROBLEMS/RESOLUTIONS
TILE SETTER	$\vdash$	
	-	
moniton #1	$\parallel$	
TOTAL	H	REMARKS
EQUIPMENT		Remied Sofoty mosting Repost From
BRIABLE GE	74/	
Miss Smach		THE STATE OF THE S
LOOL PWR		
- TOUR	•	MEETING/SUBJECT
		Muan

DAILY LOST TIME REPORT

DATE /- 29-90

AUTHORIZATION NO: 986/47

CONTRACT NO: 589 23 TK

JOB TITLE: Hill Side Building 891

CONTRACTOR: JOSE GARCIA CONST

TIME OF DELAY FROM 8: 35 (am) pm TO 1230 am-pm

TOTAL HOURS LOST: 5

#### REASON FOR DELAY

Hi winds - ordered By TKE DURAN

#### LIST OF MEN AND TRADES DELAYED

PAUL COVAREUDIAS - FORMAN LOWS GARLIA Tony SAilAS - CARPONER JAMES SAI /A-S

LIST OF EQUIPMENT DELAYED

The delay described above has been agreed upon by the RI representative and the contractor representative involved.

when it is the state of

CONTRACTOR REP: Jul A Covonabios

DATE /-3/-90

CONST. COORD:

DATE 1-31-90

PROJECT ADM: Wm Prum

DATE 2-1-90

WEATHER AMPM	AUTHORIZATION OR CONTRACT NO 986/47
SUNNY 4-	
CLOUDY	DATE 1-30-40 DAY Tuesday SHEET 12
RAIN	INSPECTOR
SNOW	PROGRESS
<40°F	17 1 11
40° - 60° F	D Kerewid project no safely or other
60° - 80° F	Problems were moted. Inis off
>80°F	Work sermet extension
WORK FORCE NO	2) Contractor placed 12.5 yel of contrato:
SUPER !	Testing lab Perent 3" shorys.
FOREMAN I	4 Test Chyhuder Taken.
CARPENTER 4	Copy of mey ticket in fele.
CARPET LAYER	
CEMENT FIN	3) all consult placed was conceed, ils
DRY WALL	Concred the execution.
ELECTRICIAN	4) General alean upo Connalled los
GLAZER	Contractor
INSTRUMENT	
INSULATOR	
IRON WORKER	
LABORER (	
MASON	
MILLWRIGHT	
OPR ENGR	DELAYS more motes!
PAINTER	
PIPE FITTER	
PLUMBER	
ROOFER	
SHEET METAL	PROBLEMS/RESOLUTIONS
TEAMSTER	
TILE SETTER	
Monitoe HP 1	
TOTAL	REMARKS
EQUIPMENT	
PORTIBLE GEN.	
SMACL PWR.	
Tooks	
	MEETING/SUBJECT
	Muss

Li

			AUTHORIZATION OR CONTRACT NO
	AM	M	
SUNNY	4	4	DATE 2-1-90 DAY THUESDAY SHEET 4
CLOUDY RAIN			INSPECTOR 2. Duran
SNOW	十	$\neg$	
< 40° F	+	-	PROGRESS WENT OVER Project NO SAFETY IT
40° - 60° F	十	디	POWNED TO BE INFRACTIONS SIGNED.
60° - 80° F	$\neg \uparrow$		LOORK PERMIT EXTENSION.
>80°F			
WORK FORCE		10	Contractor - Setting FORMS & TIES ON
SUPER		7	INTER WALL
FOREMAN		7	
CARPENTER		4	COMPLETED SETTING INTER WALL FOR
CARPET LAYE	ER		& STARTED LINE-ING up THE WAL
CEMENT FIN			E ME-INFORCING it.
DRY WALL			
ELECTRICIAN	1		ContactED EG\$6 18 B. Jomes ABOUT PH
GLAZER			TYPE OF WATER STOPS. CONFIRMED THA
INSTRUMENT	•		IT WAS TO BE SERRIED WITH CENTER BUL
INSULATOR			9"10 with Type 718. Was Contrained
IRON WORKE	R		& NOTIFIED PA. OF CONFIRMATION AND
LABORER		1	WITH PACTORY MADE SPLICES. PER.
MASON			Contractor sust.
MILLWRIGHT			
OPR ENGR		/	DELAYS NONE: NOTED
PAINTER			
PIPE FITTER			
PLUMBER			
ROOFER			
SHEET META	L		PROBLEMS/RESOLUTIONS
TEAMSTER			* SAFATY. INSPECTED SITE. CONTENCTOR STATE.
TILE SETTER			IT. Leoked ox
MONITORD	P	Ŀ	I was NOT CONTROTED OF THIS TOUR.
TOTAL	+		REMARKS
EQUIPMENT			) CONTRACTOR - COMPLETED INSTALLATION OF E
PORIBLE GE	של מ	,	IN HIS TRACKER, THE PHONE COMPANY
Misa Sm			2) ASKED PE ON APPROVES ON BOUTS (B)
Rue Tool	4		Su 3 mi TTAC - Contractor WEEDS Rela
ROEK LI	ET		MEETING/SUBJECT
	-		Muan

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AUTHORIZATION OR CONTRACT NO _ 986/47 WEATHER AMPM SUNNY DATE 2-2-90 DAY FRIDAY SHEET NOF CLOUDY INSPECTOR T Duesn RAIN SNOW **PROGRESS** < 40° F 40° - 60° F 60° - 80° F > 80° F WORK FORCE SUPER FOREMAN CARPENTER CARPET LAYER CEMENT FIN DRY WALL ELECTRICIAN GLAZER INSTRUMENT INSULATOR IRON WORKER LABORER MASON MILLWRIGHT OPR ENGR **DELAYS** PAINTER PIPE FITTER PLUMBER ROOFER SHEET METAL PROBLEMS/RESOLUTIONS TEAMSTER more noted TILE SETTER monitores TOTAL REMARKS EQUIPMENT RETABLE GEN, Mise . Small ANR. Tools MEETING/SUBJECT

WEATHER AMP	A AUTHORIZATION OR CONTRACT NO _ 286147
SUNNY	
CLOUDY	DATE 2-5-90 DAY Monday SHEET !
RAIN	INSPECTOR_O. Descon
SNOW -	PROGRESS
<40°F /	I haved new work permit, no probe
40° - 60° F	- Sured new work perme, me prote
> 80° F	noted of
	Contractor - Continues work on
WORK FORCE N	re-informing steel & foundation:
SUPER /	
FOREMAN /	
CARPENTER /	Contractor cleaned off muse
CARPET LAYER	from concred estamption.
CEMENT FIN	
DRY WALL	
ELECTRICIAN	
GLAZER	
INSTRUMENT	
INSULATOR	
IRON WORKER	Sut Continutor continues to ser us
LABORER /	sortale Sen day air montor,
MASON	
MILLWRIGHT	
OPR. ENGR	DELAYS
PAINTER.	* Delayed Contentor on starting work a
PIPE FITTER	to new instructions by PA
PLUMBER	all work minding moving suilless
ROOFER	with winds over 15 mg # it shelt st
SHEET METAL	PROBLEMS/RESOLUTIONS
TEAMSTER	Contractor - reserved all re-inforces
TILE SETTER	stell for floor & walls
monitos 41	
TOTAL	REMARKS
EQUIPMENT	I leavined Safety meeting report from
mus. Small	Contintor Supt.
pur took &	
porible Sen.	
for Court	MEETING/SUBJECT
. <b>y</b>	
	- Juan

DAILY LOST TIME REPORT
AUTHORIZATION NO: $986/47$
CONTRACT NO: <u>58923</u> JIC
JOB TITLE: Hillside Bailding 891
CONTRACTOR: JOSE GARCIA CONST
TIME OF DELAY FROM 7.00 and-pm TO 9.00 am-pm
TOTAL HOURS LOST: 8
REASON FOR DELAY
AS FNOTHERCHED by IKE DURAN NOT THE LOCAT
work until world PERmit is posted
•
· ·
LIST OF MEN AND TRADES DELAYED
Sugar PAUL COURRULIAS FERMAN 2-HOURS
MOKIN CIARELA COMO 2- HOLD S
Tony Sailas CARponter 3-Hour TERRY Snyder Labor 2-Hour
LIST OF EQUIPMENT DELAYED
The delay described above has been agreed upon by the RI representative involved.
CONTRACTOR REP: Laul H Cornulie DATE 2-6-90
CONST. COORD: DATE 2-6-90
PROJECT ADM: Wm Prininga DATE 2-12-90

AUTHORIZATION OR CONTRACT NO __986/47 AMPM WEATHER SUNNY DAY tuesday SHEET 17 OF DATE___ CLOUDY INSPECTOR RAIN SNOW **PROGRESS** < 40° F 40° - 60° F 60° - 80° F > 80° F WORK FORCE SUPER FOREMAN CARPENTER CARPET LAYER CEMENT FIN DRY WALL ELECTRICIAN GLAZER INSTRUMENT INSULATOR IRON WORKER LABORER MASON MILLWRIGHT OPR ENGR DELAYS more notes PAINTER PIPE FITTER PLUMBER ROOFER SHEET METAL PROBLEMS/RESOLUTIONS TEAMSTER TILE SETTER TOTAL **REMARKS** EQUIPMENT suver Too

		ALITHOPIZATION OF CONTRACT NO. 986147
WEATHER AM	PM	AUTHORIZATION OR CONTRACT NO 986147
CLOUDY		DATE 2-7-90 DAY Wednesday SHEET 18
RAIN		INSPECTOR
SNOW		PROGRESS
< 40° F		Reviewed project and signed off
40° - 60° F		work permit extensión
>80°F		_ cov = parties
WORK FORCE	NO	Cotractor Completed initalling all
SUPER	7	re-bas in The foundation wal
FOREMAN	1	section.
CARPENTER	1	
CARPET LAYER		+ Same approval to slart setting
CEMENT FIN		outer some. Buttoning up
DRY WALL		forms around stell
ELECTRICIAN		
GLAZER		
INSTRUMENT		
INSULATOR		
IRON WORKER		Sul Contractor Continuels to service
LABORER	1	the temporary dan for the
MASON		air monitor same.
MILLWRIGHT		
OPR ENGR	1	DELAYS none noted.
PAINTER		
PIPE FITTER		
PLUMBER		
ROOFER		
SHEET METAL		PROBLEMS/RESOLUTIONS
TEAMSTER	1	Antrestor ask to have Po lock at in
TILE SETTER		wall Thickness to miner it he
monitor HP	1	6" to 8" thickness a loste se.
		once to clear water stor-
TOTAL		REMARKS
EQUIPMENT		XW. Bushy (Weather never) from be-
mise. Smal	/	gene me a copy of weather (:
mus Tale		seport as of 1-15-90 to date.
Rible &	س.	
for Comet.		MEETING/SUBJECT
Rower		
		- Comman

- دالله

DATE 2-9-90  DAY Energy  SHEET 22  CAUDY  ANIN  SNOW  CAPPE  SO"- 80"F  NORK FORCE  NORK FORCE  NORK FORCE  NORK FORCE  ACTION  CAPPENTER  CARPET LAYER  CEMENT FIN  DRY WALL  ELECTRICIAN  GLAZER  INSTRUMENT  INSULATOR  MILLWRIGHT  OPP. ENGR  MASON  MILLWRIGHT  OPP. ENGR  PROBLEMS/RESOLUTIONS  TEAMSTER  THE SETTER  THE STETTER  THE MARKS  TOTAL  REMARKS  TOTAL  REMARKS	WEATHER AM	РМ	AUTHORIZATION OR CONTRACT NO 986147
INSPECTOR Definion  SNOW AOPF  SOO'S F SOO'S ROTE  SOO'S SOO	24 14 12 11	1	· · · · · · · · · · · · · · · · · · ·
PROGRESS  A0° F  BO° - 80° F  BO° - 80° F  BO° - 80° F  BOOK FORCE  NORK FORC  NORK FORCE  NORK FORC  NORK FORCE  NORK FORC  NOR	CLOUDY		
CAOP F  100 - 50°	RAIN		INSPECTOR
SOP - 80° F   WORK PORCE NO SUPER / BOTH SOFT   WORK FORCE NO SUPER   WORK SOFT   WORK SOF			PROGRESS
SOO'- 80°F  WORK FORCE NO SOUTH AND PRINTED SUPER  OCAPPENTER / CORPENTER / CORPENTER / CORPENTER / COMPAN / CORPENTER / COMPAN / CORPENTER / COMPAN / COMPA			- Keriew project site, and signed of
CONTRACTOR NO SUPER / FOREMAN / CARPENTER / CARPET LAYER CEMENT FIN DRY WALL ELECTRICIAN GLAZER INSTRUMENT INSULATOR GLABORER / MASON MILLWRIGHT OPP. ENGR PIPE FITTER PIPUMBER ROOFER SHEET METAL TEAMSTER TILE SETTER TOTAL EQUIPMENT MICE. Grall FEMARKS FOUND FOREMAN  TOTAL FEMARKS FOREMAN  TO CONTRACTOR  C	60° - 80° F		work sermet extension
SUPER / BOREMAN / CARPENTER / Was set up for the water stop of the	> 80° F		
CARPENTER / Jan set up faith water store CARPET LAYER CEMENT FIN  DRY WALL ELECTRICIAN GLAZER INSTRUMENT INSULATOR IRON WORKER LABORER // MASON MILLWRIGHT OPP. ENGR PPLUMBER ROOFER SHEET METAL TEAMSTER TILE SETTER TILE SETTER TOTAL EQUIPMENT  MEMARKS FEGUIPMENT  MEM	WORK FORCE	NO	Contractor Completed setting Ih
CARPENTER / Bas set up for the wall stop CARPET LAYER  CEMENT FIN  DRY WALL  ELECTRICIAN  GLAZER  INSTRUMENT  INSULATOR  IRON WORKER  LABORER / MASON  MILLWRIGHT  OPP. ENGR / DELAYS  PAINTER  PIPE FITTER  PIPE FITTER  PIPE FITTER  PICH BERNS/RESOLUTIONS  TEAMSTER  TOTAL  TOTAL  REMARKS  FEMARKS  FEMARKS  FEMARKS  FILL Sen Test  A mont steel a informed approved  A mont steel a i	SUPER	1	_ auter forme.
CARPET LAYER  CEMENT FIN  DRY WALL  ELECTRICIAN  GLAZER  INSTRUMENT  INSULATOR  IRON WORKER  LABORER  / MASON  MILLWRIGHT  OPP. ENGR  PIPE FITTER  PIPE FITTER  PLUMBER  ROOFER  SHEET METAL  TEAMSTER  TILE SETTER  TILE SETTER  TOTAL  REMARKS  FOIL Tesh  FOIL Sen  To Clear Wall   FOREMAN	/		
CEMENT FIN  DRY WALL  ELECTRICIAN  GLAZER  INSTRUMENT  INSULATOR  IRON WORKER  LABORER  / MASON  MILLWRIGHT  OPP. ENGR  PIPE FITTER  PIPE FITTER  PIPE METAL  TEAMSTER  TILE SETTER  TILE SETTER  TOTAL  EQUIPMENT  MARKS  FEQUIPMENT  MILL MRICH  PROBLEMS/RESOLUTIONS  REMARKS  FEQUIPMENT  MARKS  FEQUIPMENT  MILL MRICH  MARKS  FEQUIPMENT  MILL SETTER  MARKS  FEQUIPMENT  MILL SETTER  MARKS  FEQUIPMENT  MILL SETTER  MARKS  TO Alan.  TO Ala	CARPENTER	1	Has set up for the water ston
DRY WALL ELECTRICIAN  GLAZER  WITH EXAMPLED & forms have been been brown for the week and the we	CARPET LAYER		& anochor bolts wiel set
ELECTRICIAN  GLAZER  INSTRUMENT  CONTROL for the weekend  INSULATOR  IRON WORKER  LABORER  MASON  MILLWRIGHT  OPPR. ENGR  PIPE FITTER  PIPE FITTER  PILUMBER  ROOFER  SHEET METAL  TEAMSTER  TILE SETTER  TILE SETTER  MONITOR HP  TOTAL  EQUIPMENT  MILL REMARKS  EQUIPMENT  MILL REMARKS  FOR A CONTROL OF A CONTROL  TOTAL  REMARKS  FOR A CONTROL  TOTAL  TOTAL  REMARKS  FOR A CONTROL  TOTAL  T	CEMENT FIN		there next week.
GLAZER  CONTROL For Some have bee control for the week and control was a transfer to be a control of the week and control was a transfer to the control of t	DRY WALL		
INSTRUMENT  Converd far, The week and  INSULATOR  IRON WORKER  LABORER  MASON  MILLWRIGHT  OPP. ENGR  PAINTER  PIPE FITTER  PLUMBER  RROOFER  SHEET METAL  TEAMSTER  TILE SETTER  MONITOR HP  TOTAL  EQUIPMENT  MILL REMARKS  EQUIPMENT  MILL REMARKS  FILL SETTER  MONITOR HP  TOTAL  REMARKS  FOUR MILLWRIGHT  MILLWRIGHT  DELAYS  MONITOR  MONITOR  PROBLEMS/RESOLUTIONS  Continues to remain Temporary  generator for air monitor purelle  Monitor HP  TOTAL  REMARKS  FOUR MILLWRIGHT  MILLWRIGHT  PROBLEMS/RESOLUTIONS  Continues to remain Temporary  Generator for air monitor purelle  MILLWRIGHT  PROBLEMS/RESOLUTIONS  Continues to remain Temporary  Generator for air monitor purelle  MILLWRIGHT  PROBLEMS/RESOLUTIONS  Continues to remain Temporary  Generator for air monitor purelle  MILLWRIGHT  PROBLEMS/RESOLUTIONS  Continues to remain Temporary  Generator  MILLWRIGHT  PROBLEMS/RESOLUTIONS  Continues to remain Temporary  Generator  FOUR MILLWRIGHT  MILLWRIGHT  PROBLEMS/RESOLUTIONS  Continues to remain Temporary  Generator  FOUR MILLWRIGHT  MILLWRIGHT  PROBLEMS/RESOLUTIONS  Continues to remain Temporary  Generator  Generator  FOUR MILLWRIGHT  AND TEMPORATOR  TOTAL  FOUR MILLWRIGHT  FOUR MILLWRIGH	ELECTRICIAN		
INSULATOR  IRON WORKER  LABORER  MASON  MILLWRIGHT  OPPR. ENGR  PAINTER  PIPE FITTER  PLUMBER  ROOFER  SHEET METAL  TEAMSTER  TILE SETTER  MONITOR  TOTAL  EQUIPMENT  MILLWRIGHT  PROBLEMS/RESOLUTIONS  Contractor Continues to service Temporary  generator for ari monitor purelle  MONITORIA  REMARKS  FOULTIONS  TOTAL  TOTAL  REMARKS  FOULTIONS  TOTAL  TOTA	GLAZER		The expanation & forms have bee
RON WORKER LABORER  MASON  MILLWRIGHT  OPR. ENGR  PAINTER  PIPE FITTER  PLUMBER  ROOFER  SHEET METAL  TEAMSTER  TILE SETTER  TILE SETTER  TOTAL  REMARKS  EQUIPMENT  Mis. Small  Australia  Fig. III. San.  To Clean wall—stap (9") inis.	INSTRUMENT		Conved for the weekend
MASON MILLWRIGHT OPR. ENGR PAINTER PIPE FITTER PLUMBER ROOFER SHEET METAL TEAMSTER TILE SETTER THE SETTER THE SETTER TOTAL EQUIPMENT  Misc. Shelf And Table  And Tabl	INSULATOR		also its cleaned up & trace
MASON  MILLWRIGHT  OPR. ENGR  PAINTER  PAINTER  PIPE FITTER  PLUMBER  ROOFER  SHEET METAL  TEAMSTER  TILE SETTER  TILE SETTER  TOTAL  REMARKS  EQUIPMENT  TOTAL  REMARKS  FOULTIONS  TEAMSTER  TOTAL  REMARKS  FOULTH WITH Control of the control of t	IRON WORKER		removed.
MILLWRIGHT  OPR. ENGR  PAINTER  PIPE FITTER  PLUMBER  ROOFER  SHEET METAL  TEAMSTER  TILE SETTER  TOTAL  REMARKS  EQUIPMENT  TOTAL  REMARKS  EQUIPMENT  Total  And Total	LABORER	1	
DELAYS more noted  PAINTER  PIPE FITTER  PLUMBER  ROOFER  SHEET METAL  TEAMSTER  TILE SETTER  Monclos HP  TOTAL  EQUIPMENT  Miss. Smell  pur Tabb  poills San.  To Clear wall— stap (9") init	MASON		
PAINTER PIPE FITTER PLUMBER ROOFER SHEET METAL TEAMSTER TILE SETTER TOTAL EQUIPMENT  Miss. Smell  pur Tash  posible Sen.  To alegae walle-stap (9") in started  PITOTAL  PROBLEMS/RESOLUTIONS  Contractor Continuian To service Temporary  and Temporary  To alegae walle-stap (9") in started  To alegae	MILLWRIGHT		
PIPE FITTER  PLUMBER  ROOFER  SHEET METAL  TEAMSTER  TILE SETTER  TOTAL  EQUIPMENT  Miss. Smelf  purification  Figure Tools  purification  To alean wall - stop (9") in st.	OPR. ENGR	1	DELAYS more noted
PLUMBER  ROOFER  SHEET METAL  PROBLEMS/RESOLUTIONS  TEAMSTER  TILE SETTER  monitor HP  TOTAL  REMARKS  EQUIPMENT  mise. Smell  pur Tools  pur Tools  par T	PAINTER		
ROOFER SHEET METAL PROBLEMS/RESOLUTIONS TEAMSTER TILE SETTER  monitor HP  TOTAL  REMARKS EQUIPMENT  miss. Smelf  pur Tools  poills Sen.  To alean waln-stap (9") in it	PIPE FITTER		
PROBLEMS/RESOLUTIONS  TEAMSTER  TILE SETTER  TOTAL  EQUIPMENT  Total  Proposition of the service temporary  Total	PLUMBER		
TEAMSTER  TILE SETTER  TOTAL  REMARKS  FOUIPMENT  TOTAL  Poille San.  To alean waln-atap (9") init	ROOFER		
TEAMSTER  Contractor Continues To service Temporary  TILE SETTER  generator for air monitor purile  monitor HP  TOTAL  REMARKS  EQUIPMENT  For Marks  Freeding Colled and approved  mise. Smelf encreasing inter Wall from 6" To b  pur Tools  poille Sen.  To alease water-stop (9") init	SHEET METAL		PROBLEMS/RESOLUTIONS
TILE SETTER  generator for air monitor public  monitor HP  TOTAL  REMARKS  EQUIPMENT  For M Freehling Celled and approved  mise. Smell increasing inter Wall from 6" To b  pur took  poille San.  To alease water-stop (9") inis	TEAMSTER		
TOTAL  REMARKS  FOUIPMENT  For M Freeling Colled and approved  mise. Smell encreasing inter Wall from 6" To 6  pur Tools  poille Sen.  To alease wale stop (9") inst	TILE SETTER		generatos for air monitos suile.
mise. Smell inseasing inter Wall from 6" To be pur task to more steel re-informent of posible San. To alease water-stop (9") ins	monitor HP	/	
mic. Smell encreasing inter Wall from 6" To be por table Sen. To alease water-stop (9") inis	TOTAL	-	REMARKS
poille Sen. To clear water-stop (9") ins	EQUIPMENT		
poille San. To aleas wales-stop (9") ins.  for Temp. Aut. MEETING/SUBJECT	mise. Smel	P	encreasing inter Wall from 6" To 6
for temp. Aut. MEETING/SUBJECT	pur tasts		I mont steel re-informent
for Tamp. Hut. MEETING/SUBJECT	posible Sen	<u>.</u>	to clear water - stop (9") ins
	for temps.	w	MEETING/SUBJECT

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.1	WEATHER AM	РМ	AUTHORIZATION	OR COL	NTRACT NO	98614	シア	
1 1 2	SUNNY	78	AUTHORIZATION	0.100.	***************************************	<b>*</b>	1	
)F_	CLOUDY		DATE	2-90	-1	DAY Mond	my	_SHEET_2/_OF_
	RAIN		INSPECTOR		Guar	<u> </u>		_SHEET <u>2/</u> OF_
	SNOW		PROGRESS					
-	< 40° F			<del></del>		<del></del>		
	40° - 60° F 60° - 80° F						<del></del>	
	> 80° F	$\vdash$		<del></del>			<del></del>	
					<del></del>			
		NO			<del> </del>			
	SUPER	1						
<u> </u>	FOREMAN	1				<del></del>		
	CARPENTER	3						
	CARPET LAYER							
	CEMENT FIN							
	DRY WALL							
	ELECTRICIAN					<del></del>		<del></del>
	GLAZER		<del> </del>	<del></del>				
2	INSTRUMENT	-						
	INSULATOR	-		<del></del>				
	IRON WORKER	-			<del></del>		<del></del>	
	LABORER				<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>	·		
	MASON							
	MILLWRIGHT							
	OPR ENGR		DELAYS					
	PAINTER							
	PIPE FITTER							
	PLUMBER							
	ROOFER				<del></del>			
	SHEET METAL		PROBLEMS/RESC	LUTION	vie		<del></del>	
	TEAMSTER		MODELMOMESC	201101				
	TILE SETTER							
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	TOTAL							
			REMARKS	<del> </del>				
	EQUIPMENT							
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Var	4							
			MEETING/SUBJE	CT				
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WEATHER	AM	PM	AUTHORIZATION	ON OR CONTRACT N	DAY theoday	
SUNNY			0.75	-12	nex trade	OUEET 2
CLOUDY			DATE	0 10	_DAY Manag	SHEE! _
RAIN			INSPECTOR	J. Mulan		
SNOW	X	X	PROGRESS			
< 40° F						
40° - 60° F 60° - 80° F	$\vdash$					
> 80° F						
WORK FORC	E	NO				
SUPER						
FOREMAN						
CARPENTER		3				
CARPET LAY	ER					
CEMENT FIN						
DRY WALL						
ELECTRICIA	N		***************************************			
GLAZER						
INSTRUMEN'	T					
INSULATOR						
IRON WORK	ER					
LABORER						
MASON						
MILLWRIGHT						
OPR ENGR			DELAYS			
PAINTER			-			
PIPE FITTER						
PLUMBER						
ROOFER						
SHEET META	\L		PROBLEMS/RE	SOLUTIONS		7 
TEAMSTER						30 S
TILE SETTER						
TOTAL			REMARKS			
EQUIPMENT						
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			MEETING/SUB	JECT		
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1	MPM	AUTHORI	ZATIO	N OR C	ONTRACT N	0	70019	//		
SUNNY	4-1	DATE	2-	14	Lluson	DAY	Wednes	deer	SHEET	2
CLOUDY		INSPECT	OB.	_0	1aura			0	_ • • • • • • • • • • • • • • • • • • •	
RAIN	+7	11401. 501	O11		100000	<del></del>				
SNOW X	-1-4	PROGRES	<u>ss</u>					······································		
40° - 60° F	┼╌┤									
60° - 80° F	+								·	
> 80° F	+		<del></del>							
WORK FORCE	NO									
SUPER										
FOREMAN										
CARPENTER										
CARPET LAYER	₹									
CEMENT FIN										
DRY WALL							· · · · · · · · · · · · · · · · · · ·		<del></del>	
ELECTRICIAN						<del></del>				
GLAZER										
INSTRUMENT										
INSULATOR								······································		
IRON WORKER			······································	<del></del>	······································					
LABORER					. —					
MASON										
MILLWRIGHT										
OPR ENGR		DELAYS							•	
PAINTER										
PIPE FITTER										
PLUMBER										
ROOFER				<del></del>						
SHEET METAL	$\top$	PROBLE	NS/RES	SOLUTIO	ONS					
TEAMSTER							<del></del>			
TILE SETTER						<del></del>		<del></del>	······	
TOTAL	+-			<del> </del>						
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		MEETING	2/01/10	ECT						
		MEETING	3/20R	EUI						

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WEATHER AM	РМ	AUTHORIZATION OR CONTRACT NO	986147	
SUNNY		DATE 2-15		OUEET 3
CLOUDY		INSPECTOR O Lauran	DAY WOODS	_SHEE!
RAIN		INSPECTOR & Liuan		
snow 🗸	X	PROGRESS		
< 40° F	Ĭ.			
40° - 60° F 60° - 80° F				
> 80° F				
WORK FORCE	NO			
SUPER				
FOREMAN				
CARPENTER				
CARPET LAYER				
CEMENT FIN				
DRY WALL				
ELECTRICIAN				
GLAZER				
INSTRUMENT				]
INSULATOR				]
IRON WORKER				
LABORER				
MASON				
MILLWRIGHT				l
OPR ENGR		DELAYS		
PAINTER				
PIPE FITTER				
PLUMBER				
ROOFER				1
SHEET METAL		PROBLEMS/RESOLUTIONS		
TEAMSTER				
TILE SETTER			•	
		4-4-4		
TOTAL	Щ	REMARKS		
EQUIPMENT				-
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		MEETING/SUBJECT		
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WEATHER AM	AUTHORIZATION OR CONTRAC	CT NO	
SUNNY	DATE 2-16-90 INSPECTOR DALU	DAY Sales	QUEET 20
CLOUDY	INSPECTOR OLLU	UAT	
RAIN	INSPECTOR	<del>*************************************</del>	
SNOW	PROGRESS		
< 40° F	-		
40° - 60° F 60° - 80° F			
> 80° F			
SUPER			
FOREMAN			
CARPENTER		<u> </u>	
CARPET LAYER			
CEMENT FIN			
DRY WALL			
ELECTRICIAN			· · · · · · · · · · · · · · · · · · ·
GLAZER			
INSTRUMENT			
INSULATOR			
IRON WORKER			
LABORER			
MASON			
MILLWRIGHT			
OPR ENGR	DELAYS		
PAINTER			
PIPE FITTER			
PLUMBER			
ROOFER			
SHEET METAL	PROBLEMS/RESOLUTIONS		
TEAMSTER			
TILE SETTER			
TOTAL			
TOTAL	REMARKS		
EQUIPMENT			
<u> </u>			
	MEETING/SUBJECT		

WEATHER AM	РМ	AUTHORIZ	ZATION O	R CONTRACT	г NO	986147	
SUNNY			2 17	-00	5.41	Saturday West	ouerr 7
CLOUDY		DATE	2-1/	10	DA	- Surry	_SHEE!
RAIN		INSPECTO	DRK	Merian	FOL	L WEST	
SNOW		PROGRES					
< 40° F					-		
40° - 60° F 60° - 80° F	-	ware	1 stop				
> 80° F	-						
WORK FORCE	NO		<u> </u>		······································		
SUPER FOREMAN	14	<del></del>					
	4					<del></del>	<del></del>
CARPENTER	3	***************************************					
CARPET LAYER							·
CEMENT FIN							
DRY WALL		-					
ELECTRICIAN							
GLAZER							
INSTRUMENT							
INSULATOR							
IRON WORKER							
LABORER /							
MASON							
MILLWRIGHT							
OPR ENGR		DELAYS					,
PAINTER							
PIPE FITTER							
PLUMBER			<del></del>				
ROOFER							ومساولة والتركي الكموالة والمساولة والمساولة والمساولة والمساولة والمساولة والمساولة والمساولة والمساولة والمس
SHEET METAL		PROBLEM	S/RESOL	UTIONS			
TEAMSTER							
TILE SETTER		<del></del>					permiserant land and
							<del></del>
				<del></del>	<del></del>		
TOTAL		REMARKS					
EQUIPMENT		I I LIVINI II V		<del></del>			<del></del>
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		MEETING	SUBJECT				ye.in

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WEATHER AMPM	AUTHORIZATION OR CONTRACT NO 486147
SUNNY	2-19-90 par monday 2455 27 25
CLOUDY	DATE SHEET OF_
RAIN	DATE 2-19-20 DAY Morkey SHEET 27 OF INSPECTOR
SNOW	PROGRESS
< 40° F 40° - 60° F	
60° - 80° F	
> 80° F	
WORK FORCE NO	
SUPER /	
FOREMAN /	
CARPENTER 3	
CARPET LAYER	
CEMENT FIN	
DRY WALL	
ELECTRICIAN	
GLAZER	
INSTRUMENT	
INSULATOR	
IRON WORKER	
LABORER /	
MASON	
MILLWRIGHT	
OPR ENGR	DELAYS
PAINTER	2: men reneval
PIPE FITTER	
PLUMBER	
ROOFER	
SHEET METAL	PROBLEMS/RESOLUTIONS
TEAMSTER	
TILE SETTER	
	*
TOTAL	REMARKS
EQUIPMENT	Working on waterstop
	MEETING/SUBJECT

WEATHER AM	РМ	AUTHORIZATION OR CONTRACT NO 98614/
SUNNY	1 101	DATE 2-20-20 DAY Tuesday SHEET
CLOUDY		DATE 2-10-10 DAY DAY SHEET
RAIN		INSPECTOR
SNOW < 40°F		PROGRESS
40° - 60° F		
60° - 80° F		
> 80° F		Sane as monday
WORK FORCE	NO	
SUPER		
FOREMAN		
CARPENTER	3	
CARPET LAYER		
CEMENT FIN		
DRY WALL		
ELECTRICIAN		
GLAZER		
INSTRUMENT		
INSULATOR		
IRON WORKER		
LABORER		
MASON		
MILLWRIGHT		
OPR ENGR		DELAYS
PAINTER		
PIPE FITTER		
PLUMBER		
ROOFER		
SHEET METAL		PROBLEMS/RESOLUTIONS
TEAMSTER		
TILE SETTER		
TOTAL		REMARKS
EQUIPMENT		
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		MEETING/SUBJECT
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TELESCOPINE TRANSMISSION

	AUTHORIZATION OR CONTRACT NO	
SUNNY	DATE 2-21-90 DAY Wilnesday SHEET	2
CLOUDY	DATE 2-21-90 DAY Wilmeday SHEET INSPECTOR DAY	
SNOW		
< 40° F	PROGRESS	
40° - 60° F		
60° - 80° F		
>80°F		
WORK FORCE	10	
SUPER	7	
FOREMAN		
CARPENTER	3	_
CARPET LAYER		
CEMENT FIN		
DRY WALL		_
ELECTRICIAN		
GLAZER		_
INSTRUMENT		_
INSULATOR		
	7572 - 7572 - 3.20 - 57352 Snow	
IRON WORKER	- 7572 1 7 HB -	
LABORER	A 3.20 (04)	_
MASON	7352	
MILLWRIGHT	- Snow	_
OPR ENGR		_
PAINTER		
PIPE FITTER		•
PLUMBER		
ROOFER		
SHEET METAL	PRC	
TEAMSTER		
TILE SETTER		
TOTAL	REMARKS	_
EQUIPMENT		
		_
		_
	MEETING/SUBJECT	

WEATHER A	иРМ	AUTHORIZATION OR CONTRACT NO 956/47
SUNNY		DATE 2-22-90 DAY Thursday SHEET 30
CLOUDY		DATE 2 22 TO DAY MATERIAN SHEET 30
RAIN		INSPECTOR
SNOW		PROGRESS
< 40° F	4	Placed foundations wall
40° - 60° F 60° - 80° F	+	Trava gentina es es
> 80° F	+	
WORK FORCE	NO	
SUPER	17	
FOREMAN	+,-	
CARPENTER	3	
CARPET LAYER	_	
CEMENT FIN	+	
DRY WALL	+-	
ELECTRICIAN		
GLAZER	+	
INSTRUMENT	+	
INSULATOR	+-1	1
IRON WORKER		
LABORER	2	
MASON	1	
MILLWRIGHT		
OPR ENGR		DELAYS
PAINTER		
PIPE FITTER		
PLUMBER		,
ROOFER		
SHEET METAL		PROBLEMS/RESOLUTIONS
TEAMSTER		
TILE SETTER		
TOTAL		REMARKS
EQUIPMENT		
		MEETING/SUBJECT

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WEATHER AN	1 PM	AUTHORIZATION OR CONTRACT NO 986147
SUNNY		DATE 2-23-90) DAY Facility 21-21
CLOUDY		DATE 4 -5 OF DAY TIMES SHEET ST OF
RAIN		DATE 2-23-80 DAY Friday SHEET 3/ OF INSPECTOR Of Land
SNOW		PROGRESS
< 40° F	4	
40° - 60° F 60° - 80° F	┼╌┤	
>80°F	+	
WORK FORCE	NO	
SUPER	1	
OREMAN	1	
CARPENTER		
CARPET LAYER		
CEMENT FIN		
DRY WALL		
ELECTRICIAN		
GLAZER		
INSTRUMENT		
INSULATOR		
IRON WORKER		
LABORER	2	
MASON		
MILLWRIGHT		
OPR ENGR		DELAYS
PAINTER		
PIPE FITTER		
PLUMBER		
ROOFER		
SHEET METAL		PROBLEMS/RESOLUTIONS
TEAMSTER		
TILE SETTER		
TOTAL		REMARKS
EQUIPMENT		Strip yearns
		MEETING/SUBJECT

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WEATHER AM	РМ	AUTHORIZATION OR CONTRACT NO986 14 /
SUNNY		DATE 2-26-90 DAY Monday SHEET 3 INSPECTOR
CLOUDY		DATE SHEET SHEET
RAIN		INSPECTOR
SNOW		PROGRESS
< 40° F		
40° - 60° F 60° - 80° F		
> 80° F		
WORK FORCE	NO	
SUPER	7	
FOREMAN	7	
CARPENTER		
CARPET LAYER	•	
CEMENT FIN		
DRY WALL		
ELECTRICIAN		
GLAZER		
INSTRUMENT		
INSULATOR		
IRON WORKER		
LABORER	2	
MASON		
MILLWRIGHT		
OPR ENGR		DELAYS
PAINTER		
PIPE FITTER		-
PLUMBER		
ROOFER		
SHEET METAL		PROBLEMS/RESOLUTIONS
TEAMSTER		
TILE SETTER		
TOTAL		
TOTAL	Щ	REMARKS
EQUIPMENT		
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	l	MEETING/SUBJECT

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	РМ	AUTHORIZATION OR CO	NTRACT NO.	780	. 1		
SUNNY	$\vdash$	DATE 2-27-	90	DAY THE	eday	_SHEET	
CLOUDY		DATE 2-27- INSPECTOR 2	I Suran		0		
SNOW							
< 40° F		PROGRESS					
40° - 60° F					· · · · · · · · · · · · · · · · · · ·	·	
60° - 80° F	$\vdash$						
> 80° F	Щ	Ship				<del>~</del>	
WORK FORCE	NO	,					
SUPER		**************************************					
FOREMAN							
CARPENTER							
CARPET LAYER							_
CEMENT FIN						<del>- 1 1. 7 2 2 2 1</del> .	-
DRY WALL				······································			
ELECTRICIAN	†				<del></del>		
GLAZER	-						-
INSTRUMENT						<del> </del>	_
INSULATOR							
	-					<del> </del>	_
IRON WORKER	9						
LABORER	12						-
MASON							
MILLWRIGHT	-	<del></del>					_
OPR ENGR		DELAYS				· · · · · · · · · · · · · · · · · · ·	_
PAINTER							_
PIPE FITTER							
PLUMBER							
ROOFER							
SHEET METAL		PROBLEMS/RESOLUTIO	NS				
TEAMSTER							
TILE SETTER			<del></del>				
	-						
TOTAL	+	DEMARKS					
EQUIPMENT	J	REMARKS					
-GOTT WEIGH				<u></u>		<del></del>	
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		MEETING/SUBJECT	<del></del>				
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NATE 1-24-W DAY Widnesday SHEET 34. NSPECTOR Shows SHEET 34. NSPECTOR
NSPECTOR SA Junear Properties of the second
PROGRESS
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PROBLEMS/RESOLUTIONS
REMARKS
Report on losses -

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WEATHER AM	<b>IPM</b>	AUTHORIZATION OR CONTRACT NO
SUNNY		DATE MONAR 1. 1490 DAY Thursday SHEET 35
CLOUDY	$\bot$	DATE march 1, 1990 DAY thursday SHEET 35 C
RAIN		INSPECTOR
SNOW < 40° F	-	PROGRESS
40° - 60° F	1	
60° - 80° F		
> 80° F		
WORK FORCE	NO	
SUPER		
FOREMAN		
CARPENTER		
CARPET LAYER		
CEMENT FIN		
DRY WALL		
ELECTRICIAN		
GLAZER	1	
INSTRUMENT		•
INSULATOR		
IRON WORKER	1	
LABORER		
MASON		
MILLWRIGHT		
OPR ENGR	1	DELAYS
PAINTER	1	
PIPE FITTER		
PLUMBER		
ROOFER		
SHEET METAL		PROBLEMS/RESOLUTIONS
TEAMSTER		
TILE SETTER		
	1-	
	+	
TOTAL	-	DEMARKS
EQUIPMENT	<u> </u>	REMARKS
		MEETING/SUBJECT
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WEATHER AM	РМ	AUTHORIZATION OR CONTRACT NO	986147	
SUNNY		DATE March 2, 1990	Day Fairage	SUEET 3/
CLOUDY		-	DAY TRIBANG	SHEE! <u>36</u> _
RAIN		INSPECTOR		
SNOW		PROGRESS		
< 40° F				
40° - 60° F 60° - 80° F	$\vdash$			
> 80° F				
WORK FORCE	NO			
SUPER				
FOREMAN				· · · · · · · · · · · · · · · · · · ·
CARPENTER				
CARPET LAYER		•		
CEMENT FIN				
DRY WALL				
ELECTRICIAN				
GLAZER				
INSTRUMENT				
INSULATOR				
IRON WORKER		,		
LABORER				
MASON				
MILLWRIGHT				
OPR ENGR		DELAYS		
PAINTER				
PIPE FITTER		-		
PLUMBER				
ROOFER				
SHEET METAL		PROBLEMS/RESOLUTIONS		
TEAMSTER				,
TILE SETTER				
				1
TOTAL		REMARKS		
EQUIPMENT				
			··	1
		MEETING/SUBJECT		
				1

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WEATHER	AM	РМ	AUTHORIZATION OR CONTRACT NO 986/4/
SUNNY			DATE march 5 1990 DAY Monday SHEET 370F
CLOUDY			INSPECTOR Ollum
RAIN			INSPECTOR
SNOW	_		PROGRESS
< 40° F	-		
40° - 60° F 60° - 80° F	┼		
>80°F			
WORK FORC	E	NO	
SUPER			
FOREMAN	<del>~</del>		
CARPENTER			
CARPET LAY	ER		
CEMENT FIN			
DRY WALL			
ELECTRICIA	N		
GLAZER			
INSTRUMEN	T		
INSULATOR			
IRON WORK	ER		
LABORER			
MASON			
MILLWRIGHT	Γ		
OPR ENGR			DELAYS
PAINTER			
PIPE FITTER			
PLUMBER			
ROOFER			
SHEET META	۱L		PROBLEMS/RESOLUTIONS
TEAMSTER			
TILE SETTER	}		
TOTAL			REMARKS
EQUIPMENT			
			MEETING/SUBJECT
		,	

DAILY LOST TIME REPORT
AUTHORIZATION NO: 986147
CONTRACT NO: 58923
JOB TITLE: Hill Side Building 89/
CONTRACTOR: Jose GARCIA Const
TIME OF DELAY FROM 7.70 amppm to 9.00 amppm
TOTAL HOURS LOST: 2.7
REASON FOR DELAY
NO WORK PERMIT ON SITE
Note: (buld not some permet due to water appeare
into tranch which had been got war the fell the weekend by severation of water and start the Water
Approval to place soul, anguet and old was only Wet or
any beautiful id the Selle Marin town
plant): Person of ale plant to level foll tis in for attent
Harry was around telephone to face to face tout to LIST OF MEN AND TRADES DELAYED
PAUL COVARRUBIAS SUP 2 HOURS PLI COVARRUBIAS FORMAN 2 HOURS
JOHN SAILAS CARPENTER 2 HOURS HOWARD SMITHGACK PRICE 2 MAINS
JAMES SAILES FINISLER & HOURS NON SAWYOR DRIVER ZAME
Louis GARCIA FORMAN 2 HOURS OPLANDO HERRERA LABOR 2 HOUR
LIST OF EQUIPMENT DELAYED maquel oliva operate 2-Hours
DACK HOLE 2 Hours
Dump Truck 2 Hours
FRONT END LOOMER 2 HOURS
The delay described above has been agreed upon by the RI representative and the contractor representative involved.
CONTRACTOR REP: Soul A Colonission DATE 3-5-90
CONST. COORD: DATE 3-8-90
PROJECT ADM: DATE

DAILY LOST TIME REPORT  DATE March 5, 1990
AUTHORIZATION NO:
CONTRACT NO: <u>58923 JK</u>
JOB TITLE: Bldg#891
CONTRACTOR: PHIL'S BACK- Hoe Service, Inc.
TIME OF DELAY FROM 7:00 am-pm TO 9:00 am-pm
TOTAL HOURS LOST: 2 HRS.
REASON FOR DELAY
Permit to Work WAS NOT Signed
TOTAL COST DOWN TIME \$527.42  PHIL Covarrubias - Foreign - 2 hrs. X \$ 20.15 = \$30.30  Miguel Oliva - Operator 2 hrs. X \$ 17.28 = \$34.56  Howard Suithgall - Operator 2 hrs. X \$ 17.28 = \$34.56  Howard Suithgall - Operator 2 hrs. X \$ 17.28 = \$38.30  Run Sawyer - Driver - 2 hrs. X \$ 17.29  Orlando Herrera - Labor - 2 hrs. X \$ 172.70  ILIST OF EQUIPMENT DELAYED  2 K.W. Dump Trucks 4 hrs. X \$ 25.00 @hr. = \$100.7  3 yd. Loader . 2 hrs. X \$ 65.00 @hr. = \$130.7  3 yd. Loader . 2 hrs. X \$ 65.00 @hr. = \$460.00  4 10 Back - Hoe 2 hrs. X \$ 33.00 @hr. = \$460.00  The delay described above has been agreed upon by the RI
The delay described above has been agreed upon by the RI representative involved.
BoB McCAHER
CONTRACTOR REP: DATE 3-5-90
CONST. COORD: DATE 3-5-90
PROJECT ADM: DATE

DATE Mush 6, 1990 DAY Tuesday SHEET 3
INSPECTOR
PROGRESS
DELAYS
PROBLEMS/RESOLUTIONS
REMARKS
MEETING/SUBJECT

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WEATHER	АМ	PM	AUTHORIZATION OR CONTRACT NO
SUNNY			DATE March 7. 90 DAYWEDNESSON SHEET 39 OF
CLOUDY			DATE March 7, 90 DAY WADNESDAY SHEET 39 OF_
RAIN			
< 40° F		$\vdash$	PROGRESS
40° - 60° F			
60° - 80° F			
> 80° F			
WORK FORCE	E	NO	
SUPER			
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CARPENTER			
CARPET LAY	ER		
CEMENT FIN			
DRY WALL			
ELECTRICIAN	7		
GLAZER			
INSTRUMENT	Γ		
INSULATOR			
IRON WORKE	R		
LABORER			
MASON			
MILLWRIGHT	•		
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PAINTER			
PIPE FITTER			
PLUMBER			
ROOFER			
SHEET META	L		PROBLEMS/RESOLUTIONS
TEAMSTER			
TILE SETTER			
TOTAL			REMARKS
EQUIPMENT		<u> </u>	
			MEETING/SUBJECT
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WEATHER AMPM	AUTHORIZATION OR CONTHACT NO TORWI
SUNNY	DATE 3-8-90 DAY Thurstey SHEET 40
CLOUDY	INSPECTOR Solum
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INSULATOR	
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WEATHER AM	PM	AUTHORIZATION OR CONTRACT NO
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CLOUDY		INSPECTOR Dum
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IRON WORKER		
LABORER		
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TEAMSTER		
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CLOUDY	DATE 3-13-80 DAY tuesday SHEET 43 OF INSPECTOR Q // uses.
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EQUIPMENT	REMARKS
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	NO	DATE	DATE 3-14-90 INSPECTOR 2 Number PROGRESS  DELAYS  PROBLEMS/RESOLUTIONS  REMARKS

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CLOUDY	_	DATE 3-15-90 INSPECTOR QLA	yan-	
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	TEAMSTER	
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INSULATOR	
IRON WORKER	
LABORER	
MASON	
MILLWRIGHT	
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TILE SETTER					
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WEATHER	AM	PM	AUTHORIZAT	ION OR CONTR	RACT NO	786441	
SUNNY			DATE 3-	26-40	DA	mor lan	SHEET <u>ح</u>
CLOUDY	$\sqcup$		INSPECTOR	Shun		-	
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60° - 80° F							
> 80° F							
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			MEETING/SU	DUEO I			

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#### DAILY LOST TIME REPORT

DATE 3-26-90

AUTHORIZATION NO: 986147

CONTRACT NO: 58923 JK

JOB TITLE: HICK Side Building 891

CONTRACTOR: TOSE GARICA CONST.

TIME OF DELAY FROM 8. O. and pm TO 10. Com-pm

REASON FOR DELAY

No work permit on site Job shut down

#### LIST OF MEN AND TRADES DELAYED

PAUL COURRENDINS - SUPE. 4 - HES Louis GARCIA - FORMAN 2- HAS Tony SAILAS - CARPORTER 2- HES JAMES SAILAS - LABOR 2- HES

## LIST OF EQUIPMENT DELAYED

The delay described above has been agreed upon by the RI representative and the contractor representative involved.

CONTRACTOR REP: Coul A Cousanubia

DATE 3-26-90

CONST. COORD

DATE 4-2-98

PROJECT ADM: Wm

DATE 4-2-80

DAILY LOST TIME REPORT DATE 3-26-90
AUTHORIZATION NO:
CONTRACT NO: 58923 JK
JOB TITLE: 891 HILL Side Building
CONTRACTOR: Phils BACK He - Sab Contractor
TIME OF DELAY FROM S. D. am-pm TO 10. am-pm
TOTAL HOURS LOST: /2
REASON FOR DELAY
NO work permit on site
Job Shut Down
TICT OF MEN AND TRADEC DELATED
Phil Courrellins Forman - 2 HAS
migual oblive hator - 2 - Hes
Pon Smuyer Lahor - 2-1425 Howare smithquel operator 2-425
Havre smithgall operator 2- ARS
LIST OF EQUIPMENT DELAYED
Loader -z-Hes
Jumpine Jack (compactor) -2-HRS
The delay described above has been agreed upon by the RI
representative and the contractor representative involved.
CONTRACTOR REP: Low A Covanulus DATE 3-26-90
CONTRACTOR REP: Auf A Colonubia DATE 3-26-90 CONST. COORD: Saach funan DATE 3-26-90

DATE 4-2-90

PROJECT ADM: Wm Br

DAILY LOST TIME REPORT
AUTHORIZATION NO: 3 2 DATE 3-26-90
CONTRACT NO: <u>58923</u> <u> </u>
JOB TITLE: HILL Side Building 89/
JOB TITLE: HILL Side Building 89/ CONTRACTOR: C+H Elest — Sub. Contractor
TIME OF DELAY FROM 8 00 (am) pm TO 10.00 (am) pm
TOTAL HOURS LOST: 6 HRS
REASON FOR DELAY
NO WORK PERMIT ON SITE
Job shut down
LIST OF MEN AND TRADES DELAYED
FORMAN - GERRY HALE DHRS  CLOST - Charles BRANT DHRS
LIST OF EQUIPMENT DELAYED
wike puller - 2 1+05
The delay described above has been agreed upon by the RI
representative and the contractor representative involved.
CONTRACTOR REP: Soul A Covanuber DATE 3-26-90
CONST. COORD: DATE
PROJECT ADM: Mn Bruninga DATE 4-2-90

WEATHER A	MPM	AUTHORIZATION OR CONTRACT NO
SUNNY		DATE 3-27-40 DAY turky SHEET 53 OF
CLOUDY		INSPECTOR Q Duran
RAIN		INSPECTOR_ & DUMANA
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		MEETING/SUBJECT
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DAILY LOST TIME REPORT

DATE 3-27-90

AUTHORIZATION NO: 986147

CONTRACT NO: <u>58923</u> JK

JOB TITLE: Hill side Building 89/

CONTRACTOR: JOSE GARCIA CONST

TIME OF DELAY FROM 7'00 ampm TO 9'00 amppm

TOTAL HOURS LOST: 10 HRS

#### REASON FOR DELAY

Note: Anfined Shutdown on tuesday. The

### LIST OF MEN AND TRADES DELAYED

Paul Courerubies supt

Louis Garcia Forman 2 Hrs

Tony Sailas Carpt 2 Hrs

James Sailas Labora/Finisher 2 Hrs

## LIST OF EQUIPMENT DELAYED

The delay described above has been agreed upon by the RI representative and the contractor representative involved.

CONTRACTOR REP: Gul A Cousnubias

DATE 3-27-90

CONST. COORD:

DATE 3-27-90

PROJECT ADM: Wm Bruninga

DATE 4-2-90

# DAILY LOST TIME REPORT DATE 3-27-90 AUTHORIZATION NO: 484147 CONTRACT NO: 58923 JC JOB TITLE: 891 Hill Side Building - Sul Contractor TIME OF DELAY FROM S. DU am-pm TO 10.00 (air-pm TOTAL HOURS LOST: _____ / 2_ REASON FOR DELAY NO WORK PERMIT ON SITE Job Shut Down Wite! Confunied Shut on Tuesday. IN LIST OF MEN AND TRADES DELAYED Phil Countrubins Forman migune oblive habor - 2 - HRS Ron Smuyer Lahor - 2- 14 KS smithques openator 2- HZS LIST OF EQUIPMENT DELAYED Loader Jumpine Jack (Compactor) -2-HRS The delay described above has been agreed upon by the RI

representative and the contractor representative involved.

CONST. COORD: Sandfuan

PROJECT ADM: Win Brunnga

CONTRACTOR REP: Low A Covanulus DATE 3-28-90

DATE 3-27-90

DATE 4-2-90

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WEATHER AM	AL AUTHORIZATION	OH CUNTHACT NO
SUNNY -	<del> </del>	DAY 2-25-96 SUFFT 53
CLOUDY	DATE_WS	DAY 3-28-90 SHEET 57
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DRY WALL	non	nally. Wind Bar NO 2 D-1706
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CLOUDY		INSPECTOR
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		··· Outher

(a)			1
SUNNY	4	4	DATE 3-30-90 DAY TRIDAY SHEET INSPECTOR DAY TRIDAY
CLOUDY	$\dashv$	-	INSPECTOR Offun
SNOW	$\dashv$	-	
< 40° F	$\rightarrow$	$\dashv$	PROGRESS
40° - 60° F	_	-	no activity by Contractor to day on the
60° - 80° F	_		project.
> 80° F			not: checked existing air monetor on
WORK FORCE		10	me asterity by Contractor to day on the siring six minister on sile & it was working. It
SUPER		,	<u> </u>
FOREMAN			
CARPENTER			
CARPET LAYE	ER		
CEMENT FIN			
DRY WALL			
ELECTRICIAN	1		
GLAZER			
INSTRUMENT			
INSULATOR			
IRON WORKE	R		
LABORER			
MASON			
MILLWRIGHT			
OPR ENGR			DELAYS
PAINTER			Continue with work storage delay.
PIPE FITTER			ner 6646 mangement.
PLUMBER			
ROOFER			
SHEET METAL			PROBLEMS/RESOLUTIONS
TEAMSTER	$\perp$		Lost Time Report 3-27-90 Requesting 7 day extension
TILE SETTER	_	_	was referred lack to Carine Con J. That
	$\bot$	_	Type of delap & extension required Communes
	_	_	with the autient admin of this project.
TOTAL		2	REMARKS
EQUIPMENT		_	Westy summery uport went out to day Fax.
mis Egs	mis Egup.		capit To (PA) B. Burnings.
on proje	لمنا	_	
		_	
		-	MEETING/SUBJECT
	<del></del>	]	
			- Kluan

and the state of the state of

**WEATHER** DATE Open 2, 1990 DAY Monday SUNNY SHEET 57 OF_ _OF_ CLOUDY INSPECTOR_____ RAIN SNOW **PROGRESS** < 40° F Went over Bldg Const. Site, Covering is 40° - 60° F 60° - 80° F > 80° F NO **WORK FORCE** SUPER **FOREMAN** CARPENTER CARPET LAYER **CEMENT FIN** DRY WALL ELECTRICIAN GLAZER INSTRUMENT INSULATOR IRON WORKER LABORER MASON MILLWRIGHT OPR ENGR **DELAYS** PAINTER PIPE FITTER PLUMBER ROOFER SHEET METAL PROBLEMS/RESOLUTIONS TEAMSTER TILE SETTER Time TOTAL EQUIPMENT MEETING/SUBJECT

Construction Contractor's Safety Meetings and Pre-Job Checklist

#### PRE-JOB SAFETY CHECK SHEET

JOB ROOMING ACTION HILL PRASE I LOCATION	ON WEST OF AUX SS	6 007306
CONTR. NUMBER <u>68923 JK</u> CONTRA	ACTOR JOSE GARCI	
CONCRETE WALLS PAD		
1. Standard Emergency signals fully understood:	YesNo_	
2. Contractor responsibility in time of emergency	V., /	
understood? 3. Fire and ambulance telephone numbers known?	Yes No_	
4. Areas for possible evacuation designated?	Yes No_	
5. Fire protection requirements known and plans made		
for provision of adequate equipment?	YesNo_	
6. Special safety rules and signals for this area known?		
Rockwell will provide printed special rules where	YesNo	
available.	YesNo_	<del></del>
7. Nature of chemical or special hazards for area reviewed with User Representative?	Yes No	~ W/+
8. Special safety equipment for this area known?	Yes NoNo	
9. Safety Showers and Eye Wash locations known?	Yes No_	= N/x
10. Name of person issuing Safe Work Permit	I. DURAN	<u> </u>
11. Safe work permut understood? (Designated	••	
place to obtain known?)	Yes No Yes No	<u></u> ula
12. Lockout and Danger Tag rules understood?	Yes No	
13. Smoking area designated?  14. Contractor scaffold and ladder rules known?	Yes_K_ No_	
15. Do you have a copy of and understand the Supple-	163 140	
mental Safety and Health Manual for Con-		
struction Contractors?	YesNo_	
16. Contractor assumes responsibility for their Vendors	Yes No	
entering plant?	Yes No	
17. Are your Subcontractors aware of above rules and procedures?	Yes No_	
brocedmes.	163140	
		_
REMARKS (Explain all No answers) No PAGER INVOL	DED STEW 12 9,7 NO	PREQUIREMENTS
1		WOUDN.
1/1/90		
Contractor Representative Date	Subcontractor	Date
0 11		
Project Coordinator Date		Date
Project Coordinator Date	Subcontractor	Date
KEJARUM FORTCG 1-11-90		
Oser Kebiesentative	Subcontractor	Date
DR Screet Bid net 1-11-90  Rockwell Safety Representative Date		
Rockwell Safety Representative Date	Subcontractor	Date

DATE ___March 13, 1990

#### PRE-JOB SAFETY CHECK SHEET

	JOB	Remedial	Action	Hill	LOCATION.	West of	E Bldg	881	Outsid
		Phase I				of Fend	ce Line		
	CONT	r. Number _	58923	JK	CONTRACTO	OR Jose	Garcia	Cor	st.
	co	ncrete Wa	lls/Floo	or Contai	nment Pa	d/Tempo	rary Co	nst.	Elect
	1. St	andard Emergen	cy signals ful	y understood:		7	Yes <u>X</u> 1	₩	<del></del>
		ntractor response	ibility in tim	e of emergency		,	Yes X N	in	
		re and ambulanc	e telephone n	umbers known	?		res_X_N		
		eas for possible	-		-		res_X_N		
	5. Fin	re protection req	uirements kn	own and plans	made				
Viete		or provision of a ecial safety rules		•	wa ?	1	resX_N	10	<del></del>
Bu	EGE & P	<del>leekwell</del> -will pro	vide printed	special rules wh	ete Au		. •	• .	
		vailable. ture of chemical	or special ha	zards for area		1	resX_ N	10	
		eviewed with Us				1	es_X_N	lo	
	8. Spe	cial safety equi	oment for thi	s area known?			es_X_N		
	9 Saf	ety Showers and	Eye Wash k	cations known	1	1	/esX_	lo	
	10. Na	me of person iss	uing Safe Wo	rk Permit	-	1. Dura	an		
		'e work permit u lace to obtain ki		Designated		,	es_X_N	lo	
	-	ckout and Dange		nderstood?			es X		
		oking area desig	-				es X		
		ntractor scaffold		ules known?		Y	cs X	lo	
	π	you have a copy nental Safety and truction Contrac	i Health Man		ole-	7.	'csX_N	<b>.</b>	
				v Canabata Mand	l	ĭ	62	Ю	
		ntractor assumes ntering plant?	responsionit	A for their Aeur	iors	Y	'es <u>X</u> N	o	
		your Subcontra ocedures?	ctors aware o	of above rules a	nd	Y	'es <u>X</u> N	o	
	REMAR	RKS. (Explain a	il No answers	)					
		100		<b>.</b>	<b>.</b>				
	Caus	f H cour	rnubu	10 5-13-	<u> </u>	~			
	Contrac	for Representati	ve	Date		Subcontract	or		Date
		and her	دمما	7-13-80	)				
``	Project	Coordinator		Date		Subcontract	Of		Date
	\\(\frac{1}{2}\)	12000	nga	3-13-	90				
	User Re	presentative	<del>//</del> ·	Date		Subcontract	or		Date
		ZuA.	1.	3.19-90	2				
<	Nochus	Safety Repres	chtative	Date		Subcontract	or		Date
	EG !G	$\nu$		<del>)</del>					

# SARRY Meeting

1-29-90

LAM WHEN IN

Jose GARCIA Civili

PAUL COUMERUBIAS
TONY SAILAS
JAMES SAILAS

- 1. HARD HAT AT ALC TIMES
- 2. Steel Toes when Running stemping TACK
- 3. Protective Clothas, 9/1025
- 4 SAFETY glasses when using same driving Pins wind BLowing,
- 5. KREP ARCH Clean
- 6. WATCH out FOR HODING GIUP.
- 7. WATCH FOR NAILS Bend OR FICK IP.
- 8. Check the Cords for grand and Cuts.
- 9. No open Flames on site.
- 10 110 Smoling on -,+

## SAFety meeting 2-15-45

Jose GARCIA CONST PAUL COURRUBIAS LOUIS GARCIA TONY SAILAS TERRY SNYDER

CAND H Elec. RED

- 1. Safety GLASSES
- 2 Pull or Boud NAils
- 3. Phastic Caps on expessed Althe or stakes
- H. USE LATERS TO CLIMB OVER FRIENS
  - S. Bend Tie WIRL FAND, In In TANISHE
  - 6. Keep work AREA Clean
  - 7. HARd HATS
  - 8. wear gloves
  - 9. Check ALL CORDS on Torles and other Cords
  - 60. Let Engine Cool before Fieling
  - 12 REport ALL INJURY.
  - 1. No open Flame on vic

JOSE GARCIN CONST PAUL COVARRUBIAS LOUIS BARCIA TONY SHILAS JAMES SAILAS

- 1. SARHy GLASSOS
- 2. Pull or Bend NAils
- 3. Phastic Caps ON Exposed REBAR OR steel pins
- 4. Bend Tie wire unds To the inside
- 5 Keep work AREA Clean
- 1 6. HARD HATS
  - 7. Were Gloves
  - 8. Cheek ALL Cords on Tools and Flock. Cords
  - 9. Let Engine Cool before Fueling
  - 10. Report ALC INJURYS
  - 11. TRANSPORT IN JUREd IN Company Trucks only
    - 13. Look out For wat Blankets or plastic.
- 14. Keep Ramp Clem .:
  - 15. CARE when useing welding FRON

2-19-90

PAUL COVARRUBIAS
TONY SAILAS
JAMES SAILAS
Chuck Silva

- 1 SARty GLASSES
- 2. Pull or Bend Nails
- 3. PLASTIC CAPS ON EXPOSED REBAR OR Steel Pins
- 4. Bend Tie wire Ends to inside
- S. Keep work AREA Clean
- " 6. HARD HATS
  - 7. Wear glows
  - 8. Check ULL Couds on tools and Eled. Conds
  - 9. Let engine Cool before Fueling
  - 10. REport ALL INJURY'S
  - 11. TRANSPORT INJURED IN COMPANY TRUCK ONLY.
- # 12. CALL 2911 GR Smangeney Fire INJuly Securit
  - 13. NO OPEN flame on Site without like poemit
  - 14. Footing on wet BLANKets ove plastice
  - 15- Keep WALK RAMY Clean

K. use care when useing welding IROD 6 water stop.

17. when caossing Road with Flood Coad, Protect with 244's

18.

## SAFETY MEETing

2-27-90

JOSE (TARCIA CONST PAUL COURKRUBIAS TONI) SAILAS JAMES SAILAS LOUIS GARCIA

! HARD HATS AT ALL TIMES

2. Pull or Bond Nails

3 clean up.

4. WEAK GLOVES

5. check ALL cords on tooks Had Elet Cords

ir. Report ALL INJURIJA

7. CALL 2911 LOW Emergeray, (FIRE INJURY SECURITY.

8. TRANSPORT INJURED IN Company truck only.

9. Footing on wet Blankets or plastic

10. when exussing Road with elect. Good protect with 2×45.

11. Help with humber when boading and unloading

12. Water Footing on hose Rocks, while stripping.



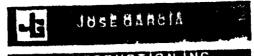
Jose (Joe) Garcia President

2963 West 91st Place Denver, CO 80221

(303) 429-3209

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	MONTHLY FIRE EXTINGUISHER INSPECTION CHECK	IST	
	•	¥23	<b>N</b> s
1	is date of manufacturer or last hydrostatic test date stamped on shell?		
2.	Is extinguisher due for hydrostatic ratest? (Carbon dioxide every five years, dry chemical and halon every 12 years)	-	
3.	is shell free of corrosion or mechanical damage and paint in good condition?		
4,	Is hanger attachment and carrying handle intact?		
5.	is the nameplate firmty attached with no sign of corrosion under the nameplate and is it readable?	V	
6.	is the discharge horn or nozzle free of cracks and damage?		4
7.	Are hose assemblies free of wear cuts, or cracks?	_1/_	
8.	Are nozzle openings free of obstructions?	<u>i</u>	
9.	On extinguishers with pressure gauges, is the gauge readable and the crystal intact?	V	
10.	Is the pressure in the correct range?		
11,	Are the lock pin and seal in place?	V	
12.	On wheeled extinguishers, do the wheels turn freely?	MA	
13.	is the nitrogen pressure regulator free of corrosion and damage on wheeled extinguishers?	NA	
INSPE	ECTOR Spul A Consmission	DATE <u>2-27-</u>	90



### CONSTRUCTION INC.

General Contractors

Jose (Joe) Garcia President

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#### CONSTRUCTION ENGINEERING SAFETY CHECK! IST

CONSTRUCTION	ON ENGINEERING	G SAFETY CHECKLIST	
1.00	n +	1 1 1 1	- 1
CONTRACTOR JOSE GARCIA	<u>óns</u> l inspectei	D BY / YOUL LOVATE	Rusios
LOCATION Building 891 ROCKY HATS	DATE	1_	
TACAL MARC	V^*	<u>a-</u>	
KOCKY ITATIS			
·			Deficiencies
	·		CORRECTED
	ACCEPTANTE	DEFICIENCIES NOTED (LIST)	(DATE)
A. RECORDKEEPING, NOTICES, POSTERS	į		
1. OSHA Poster GPO-892-171			
posted on-site			
2. Emergency telephone numbers		, —————————————————————————————————————	
posted (ambulances, doctors,			
hospitals, fire departments)			<del></del>
3. OSHA Forms 101 and 200			
maintained (or name and telephone number posted			
l telephone number posted of person to contact at the central			
office for information on safety/			
health data on these two forms			
4. "Crane Signals" poster displayed			·
5. Hazardous chemical inventory on	<del></del>		<del></del>
file and up-to-date			<del></del>
6. MSDS file maintained	<del></del>	-	
7. Documentation Log of Federal			<del></del>
Right-to-Know Training			•
Attendance maintained  8. Container labels displayed	<del></del>		
8. Container labels displayed (Air Products temporary labels)			
9. Hazard Definition Poster displayed	<del></del>		
10. MSDS Poster displayed			
11. NFPA Hazard Identification			<del></del>
System Poster displayed			
12. Federal Right-to-Know			
Training Booklets distributed		·	
13. Controlled Substance Testing			
Documents Up-To-Date			<del></del>
B. FIRST AID AND MEDICAL SERVICES		,	<del></del>
1 First aid kits accessible	V		
Telephone numbers posted for			<del></del>
doctors, hospitals and ambulances			
Anyone on project first aid- and CPR-qualified			



General Commences

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		ACCEPTABLE	DEFICIENCIES NOTED (LIST)	CORRECTE
3.	Operated by properly trained	/		
	employees		<del></del>	
4,	Detective tools or equipment removed	· V		******
5.	removed Equipped with guards			
	LDING, GRINDING, AND CUTTING			
	Gas cylinders stored and	NA		
	anchored correctly			**************************************
	Valve caps in place	<u>N/A</u>		
3.	Performed in sale area free	VIA		
	from fire hazards			<del></del>
	Hoses in good condition	<u> </u>		
Э.	Hard hats being worn under weldmets and face shields	K/A		
	Gas cylinders in a bottle cart	<del></del>		
•	while in use	N/A		
7.	Long-sleeved shirts and gloves	_V/A		<del></del>
LAC	DDERS AND SCAFFOLDS	•		
1.	Ladders*			
	a. Broken rungs or cleats		<del></del>	
	b. Properly constructed		**************************************	
	c. Portable ladders anchored			
	d. Pitch less than 1:4	<del></del>		
	Scaffolding:			
٤.	a. Correctly anchored	N/A		
	b Guard rails and toeboards	NIA		
	c. Proper flooring	NA		
	d. Flooring secured to scalfold			<del></del>
	structure	N/A		
BAF	RRICADES			
•	42" high			
2	4° back from edge of opening			
	CTRICAL			
	All electrical equipment grounded			
	including portable hand tools			
	(not double-insulated) and			



CONSTRUCTION SPECIFICATIONS

SECTION: 700 APPENDIX: 1

DATE. August 1989

PAGE.

4 of 5

#### SAFETY AND CONSTRUCTION PROCEDURES

			ACCEPTABLE	DEFICIENCIES NOTED (LIST)	DEFICIENCIES CORRECTED (DATE)
		Ground fault circuit interrupters or assured equipment grounding program provided for electrical wiring cords and equipment Temporary wiring sale	N/A		
L	TR	ENCHING AND EXCAVATION			
		All trenches shored or sloped as required Properly barncaded or flagged			
M.	CR	ANES AND EQUIPMENT			
N.	2. 3. 4 5. 6 7 8 9. STI	Rated load capacities posted on equipment Correct hand signals used Competent inspection of machinery prior to and during usage Fire extinguisher in cab of equipment Swing radius of crane body barncaded Tag lines being used on all lifts Area below lift barricaded Backup warning devices Is the operation clear of nearby power lines EEL ERECTION	M/A M/A M/A		
	1.	At least two boits at each connection before releasing the load	<u>N/A</u>		
0.	SA	FETY BELTS			
	1 2	Salety beits worn for elevated work Worker securing salety beit fine whenever possible			
P.	1	LLOVER PROTECTIVE STRUCTURES  Machines equipped  I ted property			

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# Sacety meeting

3-12-90

Jose Barcia Const.
Phili BACK Hee
C+ H Elech

- I HAND HATS
- 2 Pull or Bend Nails
- 3 Clean up work AVEN
- 4 Footing (hook out for Loss Stones and water step on wet Blankets. And plastic
- & Report ALL INJUNYA
- 6 BARUCINE ACC OPEN TREACHES Flot. and plumbing.
- 7. SAFety GLASS
- 8. Cheele Back up ALARM
- I WEL CAHENS IN TREACH.
- 10 Check ALL Coods on tools and Fleel. Conds.
- 11 Protect Cords when Crossing Road.
- 12. Wear gloves.
- 13. Plaster Caps on Exposed REBAR And Stakes.
- 14. PLUCOR Bend NAILS.

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	MONTHLY FIRE EXTINGUISHER INSPECTION CHECK	USI	
		Yes	نہ
1	Is date of manufacturer or last hydrostatic test date stamped on shell?		
2.	Is extinguisher due for hydrostatic ratest? (Carbon dioxide every five years dry chemical and halon every 12 years)		
3	Is shell free of corrosion or mechanical damage and paint in good condition?		~~
4	Is hanger attachment and carrying handle intact?		_
5	is the nameplate firmly attached with no sign of corrosion under the nameplate and is it readable?	<u> </u>	
6.	Is the discharge horn or nozzle free of cracks and damage?		
7	Are hose assemblies free of wear, cuts or cracks?		
8.	Are nozzle openings free of obstructions?	~	-
9.	On extinguishers with pressure gauges, is the gauge readable and the crystal intact?		
10	Is the pressure in the correct range?	<u> </u>	<u></u>
11	Are the lock pin and seal in place?		
12.	On wheeled extinguishers, do the wheels turn freely?	MA	
13.	is the nitrogen pressure regulator free of corrosion and damage on wheeled extinguishers?		
INSPE	ECTOR Soul A Covon bei	date <u>3-12-%</u>	<u> </u>



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CONSTRUCTION ENGINEERING SAFETY CHECKLIST				
CONT	RACTOR	INSPECTED	D BY	
LOCA	TION	DATE		
A DI	ECORDKEEPING, NOTICES, POSTERS	ACCEPTABLE	DEFICIENCIES NOTED (LIST)	DEFICIENCIES CORRECTED (DATE)
) ~ n	econdreeping, notices, postens			
1 2.	OSHA Poster GPO-892-171 posted on-site Emergency telephone numbers posted (ambulances, doctors, hospitals, fire departments)			
3.	OSHA Forms 101 and 200 maintained (or name and telephone number posted of person to contact at the central office for information on safety/ health data on these two forms			
4	"Crane Signais" poster displayed	•		
5.	Hazardous chemical inventory on			
	ille and up-to-date			***************************************
6	MSDS file maintained  Documentation Log of Federal			<del></del>
''	Right-to-Know Training			•
	Attendance maintained			
8.	Container labels displayed			
9	(Air Products temporary labels) Hazard Definition Poster displayed			
	MSDS Poster displayed			
11.	NFPA Hazard Identification			
12	System Poster displayed Federal Right-to-Know			
	Training Booklets distributed			
13.				
	Documents Up-To-Date	<del></del>		
B. FIF	RST AID AND MEDICAL SERVICES			
1	First aid kits accessible			
-	Telephone numbers posted for			
3	doctors, hospitals—and ambulances Anyone on project first aid- and CPR-qualified			



#### CONSTRUCTION

**General Contractors** 

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An Equal Opportunity Employer DEFICIENCIES CORRECTED ACCEPTABLE DEFICIENCIES NOTED (LIST) (DATE) 3. Operated by properly trained employees 4 Defective tools or equipment removed 5. Equipped with guards H. WELDING, GRINDING, AND CUTTING 1 Gas cylinders stored and anchored correctly 2. Valve caps in place 3 Performed in safe area free from fire hazards 4 Hoses in good condition 5. Hard hats being worn under weldmets and face shields 6. Gas cylinders in a bottle cart while in use 7 Long-sleeved shirts and gloves LADDERS AND SCAFFOLDS 1. Ladders* a. Broken rungs or cleats Properly constructed b c. Portable ladders anchored correctly d Prich less than 1 4 2. Scattolding: a. Correctly anchored b. Guard rails and toeboards c. Proper flooring d. Flooring secured to scatfold structure J. BARRICADES 1 42° high 2. 4' back from edge of opening K. ELECTRICAL 1 All electrical equipment grounded including portable hand tools (not double-insulated) and extension cords



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TITLE SAFETY AND	CONSTRUCTI	ON PROCEDURES		
	ACCEPTABLE	DEFICIENCIES NOTED (LIST)	DEFICIENCIES CORRECTED (DATE)	
2. Ground fault circuit Interrupters or assured equipment grounding program provided for electrical winng cords and equipment 3. Temporary winng sale	NA			
L. TRENCHING AND EXCAVATION	,			
All trenches shored or sloped     as required     Properly barncaded or flagged				
M. CRANES AND EQUIPMENT				
1 Rated load capacities posted on equipment 2. Correct hand signals used 3. Competent inspection of machinery prior to and during usage 4 Fire extinguisher in cab of equipment 5. Swing radius of crane body barricaded 6. Tag lines being used on all lifts 7. Area below lift barricaded 8. Backup warning devices 9 Is the operation clear of nearby power lines N. STEEL ERECTION 1. At least two bolts at each connection	WA WA			
before releasing the load	h/6			
O. SAFETY BELTS  Salety beits worn for elevated work  Worker securing salety beit line whenever possible	NIP			
P. ROLLOVER PROTECTIVE STRUCTURES				
Machines equipped     I 'ted property				



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Q. PERSONNEL OBSERVING SAFE WORK PRACTICES	ACCEPTABLE	DEFICIENCIES NOTED (LIST)	DEFICIENCIES CORRECTED (DATE)	
REMARKS				
NOTE: CHECK OSHA REGULATIONS FOR DI LISTED.	ETAILED REQUIR	EMENTS APPLICABLE FOR EAC	H CATEGORY	
INSPECTOR Gaul & Cousne	ulein	DATE 3-12-90		

an I was the

E. . . . . .

PAUL COVARRUBIAS
LOUIS GARCIA
TONY SAILAS
JAMES SAILAS

- 1 SARty GLASSES
- 2. Pull or Bend NAils
- 3. Phastic Caps ON Exposed REBAR OR steel pins
- 4. Bend Tie Wire Ends To the inside
- 5 Keep work AREA CleAN
- 6. HARd HATS
- 7. Wern GLOVES
  - 8. Cheek ALL Cords on Tools and Elect. Cords
  - 9. Let Engine Cool before Fueling
  - 10. Report ALL INJURYS
  - 11. TRANSport in Jured in Company Trucks only.
  - 12. NO OPEN FLAME on Site,
  - 13. Look out for wat Blankets or plastic.
  - 14. Keep Ramp Clem.
  - 15. CARE when useing welding FRON

#### CONSTRUCTION INC.

**General Contractors** 

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#### MONTHLY FIRE EXTINGUISHER INSPECTION CHECKLIST

	MORTHET TIME EXTINOSISTEN MSPECTION CHECK	Zriar
		Yes .
1	is date of manufacturer or last hydrostatic test date stamped on shell?	
2.	is extinguisher due for hydrostritic retest? (Carbon dioxide every five years, dry chemical and halon every 12 years)	-
3	is shell free of corrosion or mechanical darmage and paint in good condition?	<u>~</u> _
4	is hanger attachment and carrying handle intact?	
5.	is the nameplate firmly attached with no sign of corrosion under the nameplate and is it readable?	· <u>~</u> -
6.	is the discharge horn or nozzie free of cracks and damage?	
7	Are hose assemblies free of wear cuts, or cracks?	
8.	Are nozzle openings free of obstructions?	<u> </u>
9	On extinguishers with pressure gauges, is the gauge readable and the crystal intact?	<b>✓</b> -
10	Is the pressure in the correct range?	<u> </u>
11.	Are the lock pin and seal in place?	
12.	On wheeled extinguishers, do the wheels turn freely?	NA -
13.	is the nitrogen pressure regulator free of corrosion and damage on wheeled extinguishers?	
INSPE	ECTOR Gaul At Covanuburi	DATE <u>3- 19- 97</u>



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#### CONSTRUCTION ENGINEERING SAFETY CHECKLIST CONTRACTOR ______ INSPECTED BY _____ LOCATION _____ DATE ____ DEFICIENCIES CORRECTED ACCEPTABLE DEFICIENCIES NOTED (LIST) (DATE) A. RECORDKEEPING, NOTICES, POSTERS 1. OSHA Poster GPO-892-171 posted on-site 2. Emergency telephone numbers posted (ambulances, doctors, hospitals, fire departments) 3. OSHA Forms 101 and 200 maintained (or name and telephone number posted of person to contact at the central office for information on salety/ health data on these two forms "Crane Signals" poster displayed 5. Hazardous chemical inventory on file and up-to-date 6. MSDS file maintained 7. Documentation Log of Federal Right-to-Know Training Altendance maintained 8. Container labels displayed (Air Products temporary labels) 9. Hazard Definition Poster displayed 10 MSDS Poster displayed 11 NFPA Hazard Identification System Poster displayed 12. Federal Right-to-Know Training Booklets distributed 13. Controlled Substance Testing **Documents Up-To-Date** B. FIRST AID AND MEDICAL SERVICES 1. First aid kits accessible 2. Telephone numbers posted for doctors, hospitals, and ambulances 3 Anyone on project first aid and CPR-qualified

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#### Jose (Joe) Garcia President

2963 West 91st Place Denver, CO 80221

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An Equal Opportunity Employer DEFICIENCIES CORRECTED ACCEPTABLE DEFICIENCIES NOTED (LIST) (DATE) 3 Operated by properly trained employees 4 Defective tools or equipment removed 5. Equipped with guards H. WELDING, GRINDING, AND CUTTING 1 Gas cylinders stored and anchored correctly 2. Valve caps in place 3 Performed in sale area free from fire hazards 4 Hoses in good condition 5. Hard hats being worn under weldmets and face shields 6 Gas cylinders in a bottle cart while in use 7 Long-sleeved shirts and gloves LADDERS AND SCAFFOLDS 1. Ladders: a. Broken rungs or cleats Properly constructed c. Portable ladders anchored correctly Pitch less than 1 4 2. Scattolding: a. Correctly anchored Guard rails and toeboards c. Proper flooring d. Flooring secured to scatfold structure J. BARRICADES 1 42° high 2. 4' back from edge of opening K. ELECTRICAL 1 All electrical equipment grounded including portable hand tools (not double-insulated) and extension cords



#### CONSTRUCTION INC.

**General Contractors** 

Jose (Joe) Garcia President

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TITLE SAFETY AND CONSTRUCTION PROCEDURES				
	· · · · · · · · · · · · · · · · · · ·	ACCEPTABLE	DEFICIENCIES NOTED (LIST)	DEFICIENCIES CORRECTED (DATE)
2. Ground fault circuit or assured equipm program provided to wing cords and et a. Temporary wing s	ent grounding or electrical ale	N/A		
1 All trenches shored as required 2. Properly barncaded	or sloped			
M. CRANES AND EQUIPM	MENT			
1 Rated load capacition equipment 2. Correct hand signa 3. Competent inspection prior to and during 4 Fire extinguisher in 5. Swing radius of crabarricaded 6. Tag lines being use 7 Area below lift barri 8 Backup warning de 9. Is the operation clepower lines	Is used on of machinery usage cab of equipment ne body d on all lifts caded vices	MA M/A N/A	Notworkin-(	
N. STEEL ERECTION				
At least two boits at before releasing the		N/A		
O. SAFETY BELTS				
1 Salety belts worn fo 2. Worker securing sa whenever possible		<u> </u>		
P. ROLLOVER PROTECT	VE STRUCTURES	/		
Machines equipped     Littled property				



#### Jose (Joe) Garcia President

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An Equal	Opportunity Employ	/rt	
Q. PERSONNEL OBSERVING SAFE WORK PRACTICES		DEFICIENCIES NOTED (LIST)	DEFICIENCIES CORRECTED (DATE)
REMARKS			
	- <del></del>		
NOTE: CHECK OSHA REGULATIONS FOR DI LISTED.	ETAILED REQUIR	EMENTS APPLICABLE FOR EAC	H CATEGORY
INSPECTOR	<del></del>	DATE	

SAfety Meeting

3-26-90

Jose GARCIA Const.

Phils BACK HOPE SOR

CAH Elet

1. HARD HATS 2 Pull OR Bend NAILS

3 Keep work AREA Clern

4 rooting inside building on ROBAR MATS
5- Band Tie wike ends.
6. SACETY glasses when bending Robar or DRIVING PINS

REPORT ALL FUJURYS.

8. chiele Au Covered; on tooks And Elect. Cards

9. Protect couls when crossing Road 10. Caps on exposed REBAR OR Steel stakes

whore gloves

12 Hear Toes when Running Jumping other.
13 WATCH OUT FOR Heary ogust.

14. CALL 2911 for tomorghney (FIRE, INTURY, SECURITY 15. TRANSport injured in Company Truck only

General Contractors

Jose (Joe) Garcia

President

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	MONTHLY FIRE EXTINGUISHER INSPECTION CHECKLIST	E .	
1	is date of manufacturer or last hydrostatic test date stamped on shell?	Yes	_
2.	is extinguisher due for hydrostatic retest? (Carbon dioxide every five years dry chemical and halon every 12 years)	<del></del>	***************************************
3.	Is shell free of corrosion or mechanical damage and paint in good condition?		
4	Is hanger attachment and carrying handle intact?		
5	Is the nameplate limity attached with no sign of corrosion under the nameplate and is it readable?	_	
6	is the discharge hom or nozzle free of cracks and damage?		
7	Are hose assemblies free of wear cuts or cracks?		
8.	Are nozzle openings free of obstructions?		
9	On extinguishers with pressure gauges, is the gauge readable and the crystal intact?		
10	is the pressure in the correct range?		
11	Are the lock pin and seal in place?		
12.	On wheeled extinguishers, do the wheels turn freely?	N/A	****
13	is the nitrogen pressure regulator free of corrosion and damage on wheeled extinguishers?	MA	
INSPE	ECTOR Saul A Coranubica DATE	E <u>3-26</u>	<u>-9.</u>



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CPR-qualified

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#### CONSTRUCTION ENGINEERING SAFETY CHECKLIST CONTRACTOR JUSE GARCE GUST INSPECTED BY Baul A Covanhering _ DATE _ 3-26- 90 DEFICIENCIES CORRECTED ACCEPTABLE DEFICIENCIES NOTED (LIST) (DATE) A. RECORDKEEPING, NOTICES, POSTERS 1 OSHA Poster GPO-892-171 posted on-site 2. Emergency telephone numbers posted (ambulances, doctors, hospitals, fire departments) 3. OSHA Forms 101 and 200 maintained (or name and telephone number posted of person to contact at the central office for information on safety/ health data on these two forms 4. "Crane Signals" poster displayed 5. Hazardous chemical inventory on file and up-to-date 6. MSDS file maintained 7. Documentation Log of Federal Right-to-Know Training Attendance maintained 8. Container labels displayed (Air Products temporary labels) 9 Hazard Definition Poster displayed 10 MSDS Poster displayed 11 NFPA Hazard Identification System Poster displayed 12. Federal Right-to-Know Training Booklets distributed 13. Controlled Substance Testing Documents Up-To-Date B. FIRST AID AND MEDICAL SERVICES 1 First aid kits accessible 2. Telephone numbers posted for doctors hospitals and ambulances 3 Anyone on project first aid and

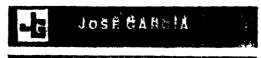


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	TITLE SAFETY AND CONSTRUCTION PROCEDURES				
		ACCEPTABLE	DEFICIENCIES NOTED (LIST)	DEFICIENCIES CORRECTED (DATE)	
	2. Ground fault circuit interrupters or assured equipment grounding program provided for electrical wiring cords and equipment 3. Temporary wiring sale  TRENCHING AND EXCAVATION				
	1 All trenches shored or sloped as required 2. Properly barncaded or flagged	N/A			
M.	1 Rated load capacities posted on equipment 2. Correct hand signals used 3. Competent inspection of machiner prior to and during usage 4 Fire extinguisher in cab of equipm 5. Swing radius of crane body barricaded 6. Tag lines being used on all lifts 7 Area below lift barricaded 8 Backup warning devices 9. Is the operation clear of nearby power lines	·			
N.	STEEL ERECTION				
0.	At least two bolts at each connection before releasing the load  SAFETY BELTS	N/A			
	<ol> <li>Safety beits worn for elevated wor</li> <li>Worker securing safety beit line whenever possible</li> </ol>	k <u>N/A</u> <u>N/A</u>			
P.	ROLLOVER PROTECTIVE STRUCTU	PRES			
	Machines equipped     I "ted properly				



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Q. PERSONNEL OBSERVING SAFE WORK PRACTICES	DEFICIENCIES CORRECTED (DATE)
AS of the first Day on the Jub.	RYS
NOTE: CHECK OSHA REGULATIONS FOR DETAILED REQUIREMENTS APPLICABLE FOR EACH LISTED.	1 CATEGORY
INSPECTOR Soul A Collanulus DATE 3-26-90	<u>)</u>
NOTE: CHECK OSHA REGULATIONS FOR DETAILED REQUIREMENTS APPLICABLE FOR EACH LISTED.	I CATEGORY

## 以EG&G ROCKY FLATS

### INTEROFFICE CORRESPONDENCE

DATE

February 7, 1990

CSI01790.vls

TO

S. A. Marshall

FROM

S. D. Whicker Jan

SUBJECT

CONSTRUCTION SAFETY INSPECTION

Per HSE 24.01 and DOE Order 5480.9, an inspection of 881 Hillside and 891 Building Construction was conducted on February 6, 1990. This inspection was limited to the items listed on the attached Construction Safety Inspection Report. A copy of this report must be posted at the job site for five (5) working days.

Please take appropriate action to correct the noted deficiencies and respond in writing within five (5) working days as to the action taken or planned for each item. Your response should be sent to Industrial Safety, Building T452C.

If you have any questions, you may call me on extension 7634.

vls

Attachment: As Stated

cc:

I. Duran

D. W. Ferrera

J. L. Hebert

C. E. Kennedy

J. D. Weaver

posted m Garcia trailer per Ike 2/12

	Work stoppa	age ordered due to		ction Safety
lbl	Date	Time	Date2-6-90	)
BLDG/			Whicker . 891 Building Construction	
ITEM	LOCATION	REQUIREMENT or STANDARD	HAZARD/DEFICIENCY and RECOMMENDED ACTION	TAKE ACTION WITHIN
1.	881	NA	<pre>1 drill rig and four man crew in area. Drill rig okay at this time, and all personnel com- plying with all safety requirements.</pre>	NA
2.	891	29-1926.25(a)	Several scrap pieces of forming material need to be removed from area, and Visqueen sheeting used to cover rebar during non-working hours needs to be folded and weighted down to prevent blowing in the wind. Contractor's foreman was notified, and both items were corrected immediately.	Done
3. •	891	29-1926.700 (b)(2)	Vertical reinforcing steel located at the northwest corner of the foundation does not have the protruding ends covered. Also as stirrup bars are installed they shall be protected. Contractor's foreman notified and situation was immediately corrected.	Dane
			Joe render to the form of the state of the s	)

RADIATION PROTECTION

LOG BOOK

FOR 5

881 HILLSIDE

REMEDIAL ACTION

#### RADIOLOGICAL MONITORING Contamination Survey

	Taken by:	Emply4		
	Taken by:	Emply4_		
	Taken by:	Emplye		
:	Date:		Survey Description:	
	Time:	•		
	Shift:			
-		J		
		Inst	rumentation Dood	RESULTS Initial
	Mfg:	1.Bicron 2.Bi		1.
	Model: Serial #:	i. fiddler i.fi		3.
	Date Per. CK: Cal. Due Date:	<u>:</u>	5	S. CPH CPH
	Mfg: Model:	1.10dlm 2.1	odlum 3. Ludlum	Removable Direct
	Serial #: Sete Per. CR:	1, 2	3	(\$wipe)
	Cal. Due Date:		3:	3.
,	Mfg:	1.Ludlum - 2.Luc	ER INSTRUMENTS Alum 3.Ludlum	5.
į	Model: _ Serial V: -	1.12 - 14 $2.12$	- IA 3.12 - IA	?: <u> </u>
! _	Date Calibide			8
	Bote Galibidus			10
			COMMENTS	And the second of the second o
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		·		

#### RADIOLOGICAL MONITORING Contamination Survey

Date: 3-22-90 Time: 1700 Shift: Q. M.	for electric Telephone? Tank for
Mfg: 1. Bicron Hodel: 1. Fiddler Serial #: 1.H \( \frac{1}{2} \rightarrow \) Date Per. CK: 1.2-2-6 Cal. Due Date: 1. 2-6	2 3 3 2 3
Model: 1.31  Serial #: 1.  Date Per. CK: 1.  Cal. Due Date: 1.  Mfg: 1.Ludlum	2. Ludlum 3. Ludlum 2 (Swipe)  2 3 1 2 3 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3

	Taken by:Emply#	
1. The state of th	### Instrumentation Used    Hfg:	Initial  1500 PMGQ  CPM CPH Removable Direct (Swipe)
	All area fiddle after excavation: bac Dere 5000/m with a 1500 c/m bkgd.	

. - -